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ABSTRACT

This document examines the options for federal financing of postsecondary vocational education. The first section describes the federal funds that now support public vocational education, emphasizing funds distributed to institutions through the Carl D. Perkins Vocational Education Act and funds distributed to students via financial aid. The second section raises the question of what federal policy ought to accomplish, given the fact that federal funding is now and probably will continue to be a very small fraction of total support for public vocational education. The third section considers a series of potential federal goals for public vocational education and then analyzes the pros and cons of different ways of achieving them. The fourth section outlines several different ways in which the division of funds between the secondary and postsecondary levels can be determined. The fifth section presents several models of what federal programs are and can be and suggests federal approaches that are different from those embodied in the Perkins Act. (CML)

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LONG TIME A'COMIN':
OPTIONS FOR FEDERAL FINANCING OF POSTSECONDARY VOCATIONAL EDUCATION

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Federal policy for postsecondary vocational education (PSVE) is in many ways a stepchild — an offshoot of federal policies adopted for other purposes. The principal institutional funding for postsecondary vocational institutions comes from the Carl Perkins Act of 1984, which developed from earlier legislation aimed at secondary vocational programs. The Perkins Act allows funds to be spent in postsecondary institutions, but otherwise makes no mention of postsecondary vocational education and makes no provisions for the differences between secondary and postsecondary programs. Student aid programs — including grants, loans, and work-study — also provide substantial federal subsidies to students in postsecondary vocational education. But these programs were devised with four-year colleges in mind, rather than the community colleges, the technical institutes, and the private vocational schools that are the locus of postsecondary vocational education. Consequently, federal funding in postsecondary vocational programs is the result of financing mechanisms devised for other types of education. There has never been much effort to ask how postsecondary vocational education differs from other types of education, and then to determine a coherent policy for postsecondary vocational education.[1]

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[1] For example, the National Institute of Education study of vocational education which led to the Perkins Act did not address the differences between secondary and postsecondary vocational education in its conclusions, and very little of the empirical analysis in this study applied to postsecondary vocational education. See *The Vocational Education Study: The Final Report*, National Institute of Education, September 1981. For earlier reports that fail to make any mention of the postsecondary level, aside from recognizing that postsecondary vocational education exists, see National Commission for Employment Policy, *The Federal Role in Vocational Education*, Report No. 12, September 1981; Congressional Budget Office, *Elementary, Secondary, and Vocational Education: An Examination of Alternative Federal Roles*, January 1977; and Comptroller General, *What is the Role of Federal Assistance for Vocational Education?*, General Accounting Office, Dec. 31, 1974.

One possible reason for the relative neglect of PSVE is that its development has been relatively recent. Much of the expansion of PSVE came with increased enrollments in community colleges and technical institutes during the 1960s and 1970s. At the same time, the community colleges became increasingly vocational institutions rather than academic and transfer-oriented colleges, reinforcing the trend toward PSVE. More recently, enrollments in *secondary* vocational programs have declined as high school graduation requirements have increased, and as educators and reformers have come to question the appropriateness of job-specific skill training in high schools.[2] Both these factors have focused greater attention on PSVE. A variety of trends — including a greater tendency for adults to return to school in order to change jobs, the need for retraining displaced workers, the need for training among women returning to employment after child-rearing years — have expanded the numbers of adults in need of vocational preparation, and this group of older students has helped swell the enrollments in PSVE. Finally, the country's interest in high-tech occupations has also helped shift interest to the postsecondary level, where many programs provide training for technically-oriented positions, rather than the low-tech training in clerical occupations and home economics usually associated with high school programs. If federal policy is to be responsive to the levels of the education system where vocational education takes place, it can no longer neglect postsecondary vocational education.

This paper examines the options for federal financing of postsecondary vocational education. The first section describes the federal funds which now support PSVE, emphasizing funds distributed to institutions through the Perkins Act and funds distributed to students via student aid. The second section raises the question of what federal policy ought to accomplish, given the fact that federal funding is now — and will probably continue to be — a very small fraction of total support for PSVE. Given budgetary restrictions, as well as the philosophy that the federal government ought to fund only those activities that states cannot adequately fund, federal goals in PSVE should probably be relatively limited and clearly stated. The third section considers a series of potential federal goals for PSVE — goals that are potentially interrelated rather than mutually exclusive — and then analyzes the pros and cons of different ways of achieving those goals. These goals include providing assistance for the maintenance of existing programs, but without any attempt to impose federal goals; improving access of PSVE to disadvantaged students and others with special needs; improving the quality of PSVE in various ways; enhancing access of adult workers in need of retraining; and providing support for developing occupations like those in high-tech sectors.

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[2] For some evidence about declining enrollments, see Janet Schwartz, *Survey of Secondary and Postsecondary Vocational Education Practices*, Abt Associates for the National Assessment of Vocational Education, draft report, Oct. 21, 1988.

Having articulated federal options for PSVE, it becomes necessary to address how the resources to further those options could be allocated. Inevitably, this raises the question of how funding ought to be split between secondary and postsecondary vocational education. While this is one of the most difficult and politically contentious issues surrounding federal policy in vocational education, it makes no sense to articulate a federal role in PSVE and then to ignore how federal funds are allocated. The fourth section therefore outlines several different ways in which the division of funds between the secondary and postsecondary levels can be determined.

Given a large number of options for federal financing of postsecondary vocational education, it becomes difficult to sort through the options, to establish priorities among them and sift the best from those that might be only marginally worthwhile. One way of doing so is to articulate a clear vision of what federal policy might be, and then to use that vision to choose among the too-many options for federal funding. The final section presents several models of what federal programs are and can be, to suggest a rather different vision of PSVE policy. While this vision must be rather tentative at this stage, the exercise of thinking about alternative federal approaches clarifies that there are some very different ways of thinking about the federal role than that currently embodied in the Perkins Act.

I. FEDERAL FINANCING IN POSTSECONDARY VOCATIONAL EDUCATION

At the same time that federal policy for PSVE has been an offshoot of policies aimed at secondary schools and four-year colleges, the variety of federal funding mechanisms which support PSVE is greater than for most other programs. No other level of education is supported by both student aid and by direct institutional funding (through the Carl Perkins Act and support of cooperative education).[3] If the conception of PSVE is expanded somewhat, the federal government also provides funds through the Job Training Partnership Act (JTPA), through tax credits to corporations in the Targeted Jobs Tax Credit (TJTC). Therefore the variety of funding mechanisms already in place is large, even though the amount of federal funding in PSVE is still relatively small. This section summarizes what is known about current federal funding in PSVE, including funding through the Perkins Act, funding for cooperative education, TRIO programs, the Targeted Jobs Tax Credit, and need-based student aid including College Work Study.

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[3] To be sure, four-year colleges and university receive institutional support through federal support of basic research, but this support is limited in both purpose and extent.

Direct Institutional Support: Funding through the Perkins Act

The major source of direct federal support for vocational education is the Carl Perkins Act of 1984, a revision of the Vocational Education Act of 1963 and the descendant of the Smith-Hughes Act of 1917, the original federal legislation for vocational education. In 1987 the federal government provided $882 million for vocational education, distributed to states for further allocation to secondary and postsecondary education. The division between the secondary and the postsecondary levels is an issue of some uncertainty. A study commissioned by the American Association of Community and Junior Colleges (AACJC) asked states to report what fraction of Perkins funds they spent on postsecondary *institutions* — that is, community colleges and postsecondary technical institutes. The results indicate that 22.6 percent of Perkins funds in 1984-85 went to these institutions, a fraction that was relatively stable over the period 1982-85.[4] Another survey conducted by the National Assessment of Vocational Education (NAVE) asked states to report the Perkins funds allocated to postsecondary *students*, and the results suggested that a substantially higher fraction — 40 percent — was allocated to these students in 1986-87.[5] The difference seems to come from the fact that many states allocate Perkins funds to area vocational schools, which serve both secondary students and adults, and therefore funds to adults in area vocational schools were included in the NAVE responses but not in those of the AACJC.[6] If this interpretation is correct, then slightly over one-fifth of Perkins funds have been spent in community colleges and technical institutes; slightly under one-fifth (roughly 17 percent) have been spent on adults in area vocational schools; and the remaining three fifths on secondary students.

The allocation to postsecondary vocational institutions varies greatly among states. In the AACJC results 13 states spent less than 10 percent of their Perkins funds on community colleges and technical institutes, while Iowa and New Mexico spent over 60 percent. A similar variation emerges in the NAVE results as well, which indicate that 8 states allocated less than 20 percent to postsecondary students while two states spent over 90 percent. (These two states appear to be ones where almost all Perkins funds are spent in area vocational schools, not in community colleges and technical institutes.) The mechanism in the Perkins Act where states decided the allocation of resources between the secondary and the postsecondary levels does indeed lead to considerable variation among states.

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[4] T. Harry McKinney and Dale Davis, *Distribution of Federal Funds for Vocational Education to Community, Technical, and Junior Colleges*, American Association of Community and Junior Colleges, 1988. These results are based on returns from 46 states.

[5] "State Policies in Vocational Education", Chapter 2 of *Second Interim Report from the National Assessment of Vocational Education*, U.S. Department of Education, September 1988. These results are based on responses from 48 states.

[6] However, it is unclear whether states with area vocational schools reported all their Perkins funds in area vocational schools as postsecondary funds, or only those spent on postsecondary students.

The relative importance of Perkins funding in PSVE can be analyzed by comparing these funds to the total revenues in public two-year institutions. In 1984-85 total revenues in public two-year colleges were $11.024 billion.[7] The AACJC estimate that 22.6 percent of Perkins funds go to postsecondary institutions implies that they received $177 million in Perkins funds,[8] or 1.6 percent of total revenues.[9] If the average postsecondary institution allocated 75 percent of its revenues to vocational programs, on the assumption that roughly 75 percent of students in these institutions are vocational students,[10]Perkins funds would amount to 2.1 percent of vocational funds. A different estimate results from examining the courses in which students enroll. Students from the high school Class of 1980 enrolled in community colleges and public technical institutes took 37.7 percent of their courses in vocational subjects, rather than academic and remedial areas.[11] If we assume that these institutions allocated 37.7 percent of total revenues to vocational programs, then Perkins funds could have amounted to 4.3 percent of vocational revenues — though this is almost surely an upper bound. Roughly, then, Perkins funds amounted to between 2 percent and 4 percent of revenues for postsecondary vocational education in community colleges and technical institutes.

These results are consistent with several local case studies commissioned by NAVE, which consistently reported that postsecondary vocational institutions received from 1 to 3 percent of their funds from the Perkins Act.[12] To be sure, there is great variation around the average: many postsecondary institutions receive no Perkins funds at all,[13] while one reported that 18.8 percent of its vocational budget and 9.6 percent of its overall budget came from Perkins funds On the average, however, the share of Perkins funding in PSVE is quite small, even negligible.

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[7] "Current Funds, Revenues, and Expenditures in Institutions of Higher Education: Fiscal Years 1983-87", Center for Education Statistics, February 1988 Bulletin. These results, drawn from HEGIS figures, report $62.5 million in federal appropriations, which presumably refers to Perkins funds; this is an even lower figure than the AACJC estimate.

[8] This is based on the fiscal year appropriation of $684.5 in basic grants plus a supplemental appropriation of $100 million. The AACJC figures are used here because the CES numbers include only postsecondary institutions, and not the area vocational schools included in the NAVE results.

[9] According to the Abt study cited in footnote 2, a slightly higher proportion of total budgets in community colleges and technical institutes — 2.5 percent — came from the Perkins Act. However, the sample for this study was drawn to include institutions with relatively large numbers of vocational students, probably inflating the proportion of funding from the Perkins Act.

[10] On the assumptions underlying this 75 percent figure, see footnote 53 below.

[11] These results are based on the analysis of credits"and courses underlying W. Norton Grubb, *Access, Achievement, and "Milling Around" in Postsecondary Vocational Education*, National Assessment of Vocational Education, June 20, 1988. It is important to note that they describe the course enrollments of younger students, and do not include the older students who are said to be more likely to be vocational students. In the NPSAS results there is no substantial difference by age in the proportion of students who consider themselves vocational students, though a larger fraction of older students did not declare themselves to be either vocational or academic. These may be students enrolled for limited purposes, and may be especially prone to enroll in vocational courses; if so, the 37.7 percent figure is a lower bound on the fraction of courses that are vocational.

[12] The case studies were carried out in Texas, Utah, Michigan, Pennsylvania, and South Carolina. According to the AACJC results, Pennsylvania allocated 14 percent of its Perkins funds to community

The Perkins Act requires states to allocate fixed proportions of their funds for specific purposes. Program Improvement must receive 43 percent of funds, while the remaining 57 percent must be spent on handicapped students (10 percent), disadvantaged students (22 percent), adults in need of training or retraining (12 percent), single parents or homemakers (8.5 percent), sex equity programs (3.5 percent) and criminal offenders (1 percent). Not surprisingly, a high proportion of the adult funds — 63 percent, compared to an average of 40 percent of all Perkins funds — are spent at the postsecondary level; these funds are often used for upgrading existing programs or starting new ones (for example, for displaced workers), though in general it is difficult to trace these revenues and know what they have accomplished. In addition, 62 percent of funds for single parents/homemakers are spent at the postsecondary level, largely for special projects set up with Perkins funds to provide counseling and information about career options; a very small amount of these funds are also used to provide child care and other supportive services. At the other extreme, a relatively smaller fraction of funds for the handicapped (25 percent) and the disadvantaged (31 percent) are spent on postsecondary students. Funds for handicapped students generally support special services related to students' handicaps. At the postsecondary levels, funds for the disadvantaged students generally support remedial education, though some institutions provide extra counseling and individual tutoring to these students.[14]

Of funds for sex equity, about 46 percent are allocated to postsecondary students. These tend to support special projects to provide with women counseling, career information (including information about non-traditional occupations), assertiveness training, and in a few cases women's centers. However, these efforts tend to be peripheral to postsecondary institutions, and generally disappear when federal funds are withdrawn; in that sense they are not institutionalized.

The largest single portion of Perkins funds is designated for program improvement. In the AACJC results about 18 percent of these funds are allocated to postsecondary institutions, while in the NAVE findings 34 percent are allocated to postsecondary students — both suggesting that secondary rather than postsecondary institutions receive the lion's share of program improvement funds. At the postsecondary level these resources tend to be used to purchase new equipment, especially computers and other high-tech equipment.[15] Equipment purchases are popular because

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colleges and technical institutes, South Carolina allocated 8 percent, while the other three allocated 29 to 30 percent, slightly above the national average.

[13] According to the Abt study cited in footnote 2, 20 percent of postsecondary institutions received no Perkins funds in 1986-87.

[14] For corroboration, see the Abt study.

[15] Again, the Abt study provides substantial confirmation of the results of the case studies.

there appear to be genuine shortages of state and local funds for equipment, especially in rapidly changing occupational areas and technical occupations where equipment needs are substantial. In addition, uncertainty about the amounts of Perkins funds an institution will receive from year to year means that funding on-going programs with Perkins funds is risky, while equipment once purchased generates a continuing stream of benefits. In some institutions, program improvement funds are used to upgrade the curricula of existing programs, or to initiate new programs. Other uses are much more rare. One institution reported using program improvement funds to put a program review model into place, to review all program systematically; in another interesting case administrators proposed using Perkins funds to hire outside evaluators, but this proposal was rejected by the board of the community college.

The Difficulties of the Perkins Act Applied to PSVE

Federal legislation has allowed vocational education funds to be spent in postsecondary institutions since the 1976 Amendments, but federal legislation has still not been written with postsecondary programs in mind. As a result there are several aspects of the Perkins Act that are especially awkward for PSVE. For example, the definition of handicapped students is simple for secondary education, where PL94-142 defines who is handicapped, and secondary administrators are used to requirements for handicapped students because of this Act. Postsecondary educators have no such definition available to them, and have had to devise their own and devised new programs for handicapped students.

Similarly, postsecondary educators often complain about the Perkins definition of disadvantaged students, which allows institutions to define disadvantage in terms of either family background (economic disadvantage) or school performance (educationally disadvantaged). Secondary schools can readily use eligibility under the school lunch program to define who is economically disadvantaged, and frequent testing allows them to determine easily who is academically disadvantaged; but postsecondary institutions have often had to devise their own measures. (Often they have relied on eligibility for Pell grants or performance on basic skills tests, but this kind of information must be specifically collected. In addition, secondary educators are used to considering disadvantaged students in terms of their family income; but postsecondary educators, whose students are generally adults, do not tend to think of their students in terms of their parents' income. Indeed, the whole notion of allocating federal funds to economically disadvantaged students is strange to many postsecondary vocational educators, who would instead prefer to provide special services based on students' performance and their need for remediation rather than on their family income. However, given the enormous latitude which the Perkins Act provides local institutions in defining who the disadvantaged are,[16] this particular criticism of the Perkins Act seems misplaced.

The Perkins Act specifies that federal funds can support only 50 percent of the excess costs of programs for handicapped and disadvantaged students. The excess cost requirements have presented special problems for PSVE because costs vary so much among different occupational programs, and must therefore be calculated individually for a large number of programs. The matching requirements have also posed problems for some institutions, especially those in low-income states or areas of economic decline where there is unlikely to be either state or local revenues available for this match.

However, the most important difficulty of the Perkins Act for PSVE is the fact that it designates a single state agency to administer funds. In most states, this is the board of education for elementary and secondary education.[17] This mechanism allows the board of education to decide the split between secondary and postsecondary institutions, and postsecondary educators feel that this works to the disadvantage of PSVE. In many states the decision about the allocation of funds has led to "turf" battles so bitter that they have soured the relationships between secondary and postsecondary educators; in turn this means that cooperation to articulate the training in secondary and postsecondary vocational education, or devise 2+2 programs, or develop a rational delineation of responsibilities, is nearly impossible. In addition, the fact that the State Board for Vocational Education is responsible for Perkins funds means that PSVE institutions often have divided allegiances, to both their own governing boards and to the State Board of Vocational Education. The stresses around this mechanism in the Perkins Act are one source of the common criticism of the Perkins Act that "the tail wags the dog:" — that is, a very small amount of federal funds creates inordinate problems for states in their programs of vocational education.

Assessing the Effectiveness of the Perkins Act for PSVE

How well has the Perkins Act met its stated goals — improving access to vocational education for designated groups of students and improving program quality — in postsecondary vocational education? One general response of postsecondary educators is that the sums of money are simply too small to redirect PSVE; the funds are generally welcome — particularly because in some institutions they are the only discretionary funds available — but they do not have any effect on the direction of postsecondary programs.[18] Furthermore, defining these populations and complying with the excess cost and matching requirements require a great deal of administrative effort; in this case "the tail wags the dog" in the sense that trivial amounts of money generate enormous amounts of paperwork, but without changing the direction of local programs.

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[16] See Stephen Barro, *Resource Allocation and Targeting Under the Perkins Act*, forthcoming from the National Assessment of Vocational Education.

[17] See John Lawrence, "Policy Issues in the Governance of Vocational Education", in *Design Papers for the National Assessment of Vocational Education*, National Assessment of Vocational Education, U.S. Department of Education, February 1987.

In the cases of funds for handicapped and disadvantaged individuals, most postsecondary educators claim that their institutions are already committed to serving these individuals; therefore they often state that special federal effort through Perkins adds very slightly to their own efforts to serve these students, but is not particularly crucial. In fact, the tendency of high school students to *enter* postsecondary vocational programs does not vary systematically by family background or race and ethnicity, suggesting that there are no systematic barriers to the entrance of low-income or minority students into PSVE.[19] However, the tendency to leave two-year institutions before completing a certificate or Associates' degree does vary with family background, with rates of non-completion significantly higher for black students, for students whose parents had low education levels, for low-income students, and those of low socioeconomic status. The reasons for non-completion are complex, and are not necessarily due to deficiencies on PSVE. They do suggest that while the issue of *access* has been largely resolved, the issue of *completion* is still very difficult. However, given the very small amount of federal funds available through the Perkins Act and the complexity of improving completion rates, it would be inappropriate to blame high rates of non-completion on failures of the Perkins Act, or to suggest that current federal resources could resolve the problems of non-completion.

For two groups — women served by sex equity programs, and single parents and homemakers — Perkins funds are more likely to determine the direction of PSVE, because federal funds are often the only resources earmarked for special services to these groups. However, the case studies suggest that such special-purpose programs are peripheral to postsecondary institutions, and are generally abandoned if federal funds disappear, suggesting that Perkins funds have failed to redirect institutional commitments or capacities.

Finally, funds for program improvement seem to be used for purposes which fit clearly within the allowable definitions: equipment purchases do clearly improve the quality of programs, especially when high-tech equipment is needed to keep up to date, and efforts to revise programs or develop new ones are also good examples of improvement. However, for reasons that will be explored in the next section, it isn't clear why federal funds should support equipment purchases, and why state and local funds are unavailable to keep programs adequately equipped and up to date. Furthermore, while upgrading old programs and establishing new ones certainly conform to a definition of "improvement," these kinds of changes might be interpreted as "routine improvement," the kinds of changes that a flexible and responsive institution ought to be making on its own constantly and that would take place even without Perkins funds — not the kind of non-routine changes, or changes that would not have taken place in the absence of federal support, that seems to be at the heart of the Perkins Act.[20] Examples of such non-routine uses of program improvement funds — for example, the proposal to hire outside evaluators, or the adoption of a novel program review model — seem quite rare.

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[18] These comments emerge consistently from the state case studies supported by NAVE cited in footnote 7 above.

[19] There is a slightly lower enrollment rate in PSVE among the highest SES students, because they tend to go on to four-year colleges, and Hispanics have a slightly higher enrollment rate than whites or blacks, but there are no significant differences by income. The results are based on High School and Beyond data, reported in W. Norton Grubb, *Access, Achievement, Completion, and "Milling Around" in Postsecondary Vocational Education*, MPR Associates for the National Assessment of Vocational Education, draft, June 20, 1988.

Certainly it appears that postsecondary vocational education is using Perkins funds in compliance with federal legislation; there is little indication of any fraud or abuse. However, the Perkins Act has not been especially successful in promoting federal goals in postsecondary vocational education. Funds to improve access by special populations have not changed the ways institutions operate, largely because the amounts available to PSVE are so trivial; in the only cases where federal funds have been effective — in sex equity and single parent/homemaker programs — they have also been peripheral. Program improvement funds have been welcome as a source of relatively unrestricted funds, but they have also not changed the ways in which PSVE operates, and have supported activities one might term routine.

In general, the Perkins Act seems to be less well-liked within PSVE than was its predecessor, because it is more prescriptive (particularly in the detailed structure of the set-asides) and imposes more requirements (like the excess cost and matching provisions).Without too much exaggeration, then, the Perkins Act can be viewed as a block grant providing very small amounts of discretionary money for PSVE, accompanied by burdensome administrative and reporting requirements that local programs find aggravating but which don't serve the interests of promoting federal goals very clearly.

There is a deep dilemma in this conclusion, one that Congress faces every time it enacts legislation that seeks to redirect policy but without providing large sums of money. Local institutions always prefer unconstrained funds over funds that are highly prescribed or restricted; but small amounts of unconstrained funds are unlikely to further any federal goals. Congress can then impose constraints in order to promote federal goals more precisely, but these constraints are bound to be unpopular. If the legitimacy of federal goals is widely accepted, and the federal program is effective in furthering its goals, then unpopular constraints may be worth the trouble they cause. But in the case of he Perkins Act, the various restrictions seem to have little effect on the ways PSVE operates, and so federal policy — while welcome because of the marginal funds it provides — is neither particularly effective nor especially popular.

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[20] For a more careful analysis of the concept of program improvement, quite close in spirit to ours, see Stephen Barro, *Resource Allocation and Targeting Under the Perkins Act.*

TRIO programs

TRIO programs — so-called because there were originally three of them — encompass five programs for disadvantaged students: Talent Search, to identify and encourage disadvantaged youth with the potential for postsecondary education; Upward Bound, to provide the skills and motivation necessary for postsecondary education among low-income youth; Student Support Services for disadvantaged college students; Educational Opportunity Centers for adults who seek to enter postsecondary education; and training programs for staff and leadership development. Thus all TRIO programs are designed to improve the performance of disadvantaged students in higher education, though some of them provide services to high school students.

Evidently, TRIO programs do not emphasize postsecondary vocational education per se. However, of the $206 million spent on TRIO programs in 1988, about $44 million was allocated to two-year institutions — most of it for student support services — and might therefore have supported disadvantaged students in PSVE. (Evidently, TRIO programs — like student aid — tend to benefit students in four-year colleges rather than the postsecondary institutions where PSVE takes place.) At the same time, the Perkins Act allocated about $163 million to disadvantaged students, of which bout 31 percent or $50 million was spent on postsecondary students.[21] Thus TRIO funds for disadvantaged students are almost as large as those available through the Perkins Act — though TRIO funds may be spent on academic as well as vocational students.

Federal Support for Postsecondary Cooperative Education (Co-op)

Cooperative education, or co-op, enables students to support themselves through paid employment. Unlike College Work Study (CWS, described below), co-op is not limited to students who qualify for financial aid. Co-op is also unlike CWS in that students often receive some academic credit for their co-op jobs, and these jobs are usually related to their field of study

Federal support for co-op has flowed through two channels. Title III of the 1965 Higher Education Act provided some support, which was expanded in 1972 by passage of a new Title

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[21] This estimates uses NAVE estimates.

VIII.[22] This has authorized discretionary grants to colleges for demonstration, training, research, and administration of co-op programs. These funds may not be used to pay students, unlike CWS. In the early 1980s the federal appropriation was approximately $14 million per year. Two-year colleges received more than one third of the money.[23] In 1986 Congress extended the authorization of Title VIII until 1991, at a level not to exceed $17 million per year (Rowe, 1988).

The second source of federal support for co-op has been in vocational education law. Regulations governing implementation of the original Smith-Hughes Act in 1917 mandated that the co-op method be made available as an alternative to school laboratories for vocational agriculture.[24] Categorical support for co-op was provided by the Vocational Education Amendments of 1968. In the Perkins Act of 1984 there was no specific amount of money authorized for co-op programs, but section 201(i) stipulates that vocational education services under the basic grant "shall, to the extent practicable, include work-site programs such as cooperative vocational education, work-study, and apprenticeship programs." Section 201(d)(3) makes this and other provisions relating to the basic grant applicable to students in postsecondary programs leading to associate, but not baccalaureate, degrees. In combination, therefore, these two subsections authorize expenditure of vocational education funds for co-op in two-year colleges.

The Cooperative Education Research Center at Northeastern University conducts a yearly survey of co-op programs in two-year and four-year colleges and universities in the U.S. and Canada. The 1987 survey found co-op programs in 437 two-year colleges and 549 four-year colleges in the U.S. Most of the two-year college co-op programs began between 1967 and 1981. Many co-op programs in four-year colleges and universities also started in this period, but the original postsecondary co-op programs were all in four-year colleges: 17 co-op programs in four-year colleges and universities that started between 1906 and 1926 were still active in 1987.

The first co-op programs all were organized on an "alternating" schedule, under which students spend approximately equal periods of time (e.g., semesters) alternately in full-time schooling and full-time work. This mode still predominates in four-year institutions. Federal support for postsecondary co-op was originally limited to alternating programs. However, most two-year colleges find it convenient, and less disruptive of students' progress, to organize co-op programs on a "parallel" schedule. This means students attend classes on a full-time basis during part of the day and work part-time during the other part of the day. Federal law was changed in 1976 to permit support for parallel programs. Even in four-year institutions there is a trend away from alternating programs. The smaller size of the college-age cohort in the 1980s has made it more advantageous to keep students on campus, rather than send them off campus to save space, which was a concern during the enrollment boom of the 1960s and early 1970s.

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[22] Richard Rowe, "Cooperative education and the federal nexus: Two decades of federal support", *Journal of Cooperative Education* 24 (1988): 35-46; Paul E. Dube' and George Miller, "History of the Cooperative Education Association, Inc. 1963-1988", *Journal of Cooperative Education.* 24 (1988): 9-20.

[23] Pamela Christoffel, *Working your way through college: a new look at an old idea* (New York: College Entrance Examination Board, 1985).

[24] G. Leske, and J. Persico, *Indicators of quality in cooperative vocational education, a review and synthesis of research.* St. Paul, MN: Minnesota Research and Development Center for Vocational Education, Department of Vocational and Technical Education, University of Minnesota, 1984.

The National Center for Education Statistics reported 81,500 PSVE students enrolled in co-op in 1981-82 (compared to 648,500 in cooperative vocational education at the secondary level). Business and marketing programs had the largest numbers of co-op students at both the secondary and postsecondary/adult levels.[25] The Cooperative Education Research Center counted 78,000 co-op students in two-year colleges in 1987, of whom 76 percent were in vocational fields. Approximately half of the vocational co-op students in two-year colleges were in business, which was the largest single field of study for two-year co-op students. (In comparison, engineering enrolls the largest number of co-op students in four-year colleges and universities.)

Co-op is not necessarily vocational. Students in non-vocational fields can use co-op to find jobs related to their academic interests. Even if co-op is used for vocational preparation, it can serve the broader purpose of career exploration rather than the narrower purpose of specific vocational training. These different purposes imply different measures of performance: continued schooling if the purpose is educational, placement and earnings if the purpose is vocational. In fact, there is evidence that co-op is effective in achieving all of these objectives:

> Comparatively, more co-op students persist to graduation and they tend to achieve better academically, which has been explained, partially, in terms of increased student motivation because of seeing connections between their studies and what is required in the workplace; co-op helps students develop increased self-confidence and greater 'savvy' about the world of work; comparatively, graduates have more realistic career expectations, have better information about careers, better job seeking skills, and tend to command higher salaries.[26]

Despite the multiplicity of desired outcomes, the hallmark of co-op is the close relationship between students' work on the job and in the classroom. The Cooperative Education Research Center found that teaching faculty participate as co-op advisers or coordinators in 79 percent of the two-year college programs.[27]

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[25] Marion Craft, "A look at cooperative vocational education from the federal level" *Journal of Cooperative Education* 21(1984): 40-58.

[26] James Wilson, "Research in Cooperative Education", *Journal of Cooperative Education*, 24 (1988), p. 83.

[27] Cooperative Education Research Center, *Cooperative education in the United States and Canada*. Boston, MA: Northeastern University, 1987.

Co-op and the Targeted Jobs Tax Credit (TJTC)

The Revenue Act of 1978 created TJTC, which enables employers to claim a credit on their income taxes if they hire individuals from several specific groups. Co-op students between the ages of 16 and 19 are one of the groups. The other categories include economically disadvantaged ex-offenders, economically disadvantaged Vietnam-era veterans under age 35, welfare recipients, and handicapped individuals who are receiving or have completed vocational rehabilitation. The original law set the maximum credit equal to $3,000 in the first year of employment and $1,500 in the second year. By fiscal year 1981, nearly 179,000 secondary and postsecondary co-op students had been certified as eligible for TJTC. This number was almost equal to the total for all other eligible groups.[28]

The 1981 Economic Recovery Tax Act curtailed participation of co-op students in TJTC, by limiting eligibility to those living in economically disadvantaged families. One reason for the change was that many employers reported they would have hired co-op students anyway, without TJTC. Another was that many of the students were from high-income families, and the intent of TJTC is to subsidize employment of disadvantaged groups. As a result of this and other changes (including reduction in the amount of the tax credit), the number of co-op students participating in TJTC fell to approximately 8,000 in fiscal 1983, 7,000 in 1984, and 5,000 in 1985. Unpublished figures from the U.S. Department of Labor show the number was only 1,600 in 1987.

Evaluations of TJTC have focused on whether it has increased employment of targeted groups. As originally enacted, the program permitted employers to collect tax credits for eligible employees who were already on the payroll. Critics pointed out that this gave employers a windfall gain without increasing employment of targeted groups. The 1981 amendments therefore eliminated the practice of retroactive certification; now employers are not allowed to claim the tax credit unless they determine employees' eligibility before hiring them. Statistical studies suggest that employers who use TJTC hire larger proportions of workers younger than 25, and that young workers hired under TJTC are not displacing young workers who are ineligible.[29] However, existing evaluations have been insufficient to make definitive judgments.[30]

As a means to improve PSVE, TJTC is a clumsy instrument. It would be very difficult to use the TJTC administrative apparatus to enforce any regulations about relating work experience to students' instructional programs. The basic purpose of TJTC is to create jobs for disadvantaged workers. Even if Congress were persuaded to reverse its 1981 decision and include non-poor co-op students in TJTC, it remains uncertain whether TJTC really would increase the number of jobs available for co-op students.

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[28] Linda LeGrande, *The targeted jobs tax credit, 1978-1987.* Washington, D.C.: Congressional Research Service, 1987.

[29] Sandra Christensen, *The targeted jobs tax credit.* Washington, D.C.: Congressional Budget Office, 1987.

[30] Sar Levitan and Frank Gallo, "The targeted jobs tax credit : an uncertain and unfinished experiment", *Labor Law Journal* (1987): 641-649.

Student Aid: Grants, Loans, and Work-Study

The major contribution of the federal government to higher education comes in the form of need-based student aid. The major programs of student aid include Pell Grants, generally allocated to the lowest-income students; Supplemental Educational Opportunity Grants (SEOGs); State Student Incentive Grants (SSIGs), which are provided to states on a matching grant basis and then allocated by states to students; Stafford Student Loans, formerly called Guaranteed Student Loans (GSLs); Perkins Loans, formerly National Direct Student Loans (NDSLs); and College Work-Study (CWS). These programs differ from the institutional funding of the Perkins Act because they support students instead of institutions, and fund tuition and living expenses rather than the programs of postsecondary institutions directly. The administration of these programs makes some of them interesting hybrids of institutional support and student aid. The campus-based aid programs — SEOGs, Perkins Loans, and work-study — are allocated to postsecondary institutions based on complex formulas that consider institutional cost, the needs of students who apply, and previous levels of funding; the institutions then allocate these funds to students using a standardized methodology.

Table 1 presents evidence on the proportion of students in different types of postsecondary institutions in fall 1986 who received any type of federal aid.[31] About one fifth (21.9 percent) of vocational students in community college received aid, about the same as the fraction of academic students in these institutions[32], but considerably lower than the 41.9 percent of students in public vocational/technical institutions and the 80.5 percent of students in proprietary schools who received aid. These differences among the three types of institutions that provide PSVE persist when we examine specific groups of students, indicating that there are real differences among institutions rather than just patterns which result from the composition of students; furthermore, they persist when we examine specific types of federal aid, like grants versus loans versus work-study. Similarly, students in community colleges are substantially less likely to receive aid than those in either public or private four-year colleges.[33]

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[31] These results are taken from the National Postsecondary Student Aid Survey (NPSAS), based on a national probability sample of about 35,000 students enrolled in postsecondary education in fall 1986. It is the most recent source of data on postsecondary students available, and is more complete than other data — like High School and Beyond — because it includes postsecondary students of all ages rather than just younger students. To understand federal aid in postsecondary vocational education, it is crucial to be able to consider the experiences of older students. For further results using these data, see John Tuma, Antoinette Gifford, and Susan Choy, *Student Financial Aid and Postsecondary Vocational Education*, MPR Associates for the National Assessment of Vocational Education, December 1988.

[32] In these results, vocational and academic students are categorized according to their statement about the field of study in which they were enrolled. However, not all students reported a field of study. The figures reported in the first column of Tables 1 - 3, describing all students in community colleges, include those considered vocational or academic students plus those who did not respond to this question.

In examining particular groups of students, many patterns of aid are obvious. Students whose parents have low incomes are more likely to receive aid than those from high-income backgrounds; those whose own incomes are high are less likely to receive federal aid; and blacks and Hispanics are more likely to receive aid because of their lower incomes. However, some other patterns of aid are especially important to students in PSVE. Full-tine students are considerably more like to receive aid than are part-time students, and those enrolled for relatively few credits — six or less — are especially unlikely to receive aid. This difference is due in part to the federal requirement that recipients of Pell Grants and Guaranteed Student Loans be enrolled half-time or more. In addition, part-time students are more likely to be working and have their own incomes, and they may feel that the aggravations of applying for aid are not worth it if they would only be eligible for small amounts of aid. Since many PSVE students enroll part-time, at least in community colleges,[34] the finding that part-time students are less likely to receive federal aid suggests a bias — however unintended — against postsecondary vocational students.

Another finding with particular implications for PSVE is that students without clear degree objectives — those who declare that they are not enrolled for any formal award — are less likely to receive federal aid than are those enrolled for a certificate, Associate degree, or B.A.[35] Within community colleges, 12 percent of all students and 7.5 percent of vocational students said they had no formal award in mind, as did 7.1 percent of students in public vocational/technical schools but only 2.7 percent of those in proprietary schools. The conventional wisdom in community colleges is that many vocational students enroll for only a few courses that they need to remedy a specific deficiency in their skill training, and then leave for employment with no intention of ever completing any kind of credential. While this pattern does not appear to be especially common, such students are less likely than others to be supported by federal aid.

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[33] The differences between students in two- and four-year colleges are substantial, and persist for all groups of students. While these differences therefore appear to be real, it is possible that the simple bivariate analysis of Tables 1-3 is inadequate to account for the effects of varying student characteristics on receipt of aid. Additional analyses using multivariate techniques will further examine the effects of institution type distinct from student characteristics.

[34] In the NPSAS results, 60 percent of vocational community college students report themselves to be part-time, compared to 28 percent of students in public vocational/technical schools and 16 percent of students in proprietary schools. In contrast, 21 percent of students in four-year private institutions were part-time, and 23 percent of those in public four-year colleges. The differences among institutions are similar if we examine credits hours enrolled instead of part-time/full-time status.

[35] The campus-based aid programs have been restricted to students enrolled in certificate or degree programs, and since mid-1987 this restriction has applied to GSLs as well. Thus casual students in community colleges are not even eligible for these programs.

However, there is no significant tendency for older students in postsecondary vocational institutions to be less likely to receive federal support compared to younger students.[36] One implication is that the mechanisms of federal aid appear not to be biased against older workers, including those returning to PSVE for retraining or upgrading, and potentially including displaced workers.

When we examine the amounts of federal aid students in different institutions receive, for those who do receive aid, other differences among institutions emerge. Students in community colleges and public technical institutes receive less aid than those in public four-year colleges, while those in private four-year colleges and proprietary schools receive the most. However, these differences are related to the different costs of these institutions, as can be seen by examining federal aid as a fraction of the total costs of attending postsecondary education (in Table 3). From these results, students in community colleges and proprietary schools who receive federal aid are able to cover almost three-quarters (73.2 and 72.3 percent respectively) of their costs, while students in public technical institutes cover close to 100 percent (93.9 percent), those in public four-year colleges cover about two-thirds (65.8 percent), and students in private four-year colleges — the most expensive institutions by far — cover less than two-fifths (38 percent) of their costs. In this sense, students in postsecondary vocational education who manage to receive federal aid fare well, relative to students in four-year colleges, and are able to cover a large proportion of their total costs.

From information on the proportion of students in community colleges who receive federal aid, and on the amount of aid they receive, the total amount of federal aid supporting students in PSVE can be calculated. In 1986, these amounts were as follows:

Community colleges: all students	$1,456,347,000
Community colleges: vocational students	$853,275,000
Community colleges: academic students	$230,078,000
Community colleges: other students	$372,994,000
Public vocational/technical schools	$116,171,000
Proprietary schools	$2,835,114,000
Public four-year colleges	$3,777,795,000
Private four-year colleges	$2,949,704,000

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[36] The differences by age in Table 1 are not statistically significant, though they are consistent across types of institutions. These apparent differences are probably due to the fact that older students are more likely oto have their own incomes to support themselves.

Private two-year colleges	$269,533,000

The biggest surprise in these results are the amounts of federal aid going to proprietary vocational schools. If we include vocational students in community colleges, those in vocational/technical schools and in proprietary schools, then, about 33 percent of federal aid or $3.8 billion was distributed to PSVE students — but the lion's share of this amount went to proprietary schools, rather than public community colleges and technical institutes. If we include three quarters of the "other" students to be vocational, federal aid to PSVE amounted to $4.1 billion, or 36 percent of all federal aid. However, if we focus on public vocational programs in community colleges and public vocational/technical institutes, then between $969 million and $1.249 billion in federal aid was spent, or between 8.5 percent and 11 percent of all federal aid. By contrast, these public PSVE programs account for between 20.2 percent and 29.3 percent of postsecondary enrollments. The relatively small amount of federal aid, compared to the numbers of students, comes from the fact that relatively few students in community colleges participate in federal aid programs, and tuition and costs (which affect the amounts of federal aid) are much lower than in either four-year colleges or proprietary vocational schools.

These results also clarify that by far the largest federal subsidy in PSVE comes in the form of federal aid to students. Compared to the conservative estimate of $969 million in federal aid to vocational students in community colleges and public technical institutes, total direct spending through the Perkins Act amounted in fiscal year 1986 to $813 million, of which approximately $170 million was spent on postsecondary institutions.[37] Other direct support for coop programs amounted to not more than $6 million, with even smaller amounts subsidizing co-op programs through the Targeted Jobs Tax Credit. Roughly, then, at least 85 percent percent of total federal subsidies in public postsecondary vocational education. come through student aid, rather than through direct spending programs.

Finally, it is clear from these results that federal subsidies to *private* postsecondary vocational education are much larger than those to the public sector.[38] Compared to subsidies to public PSVE of perhaps $1.2 billion, federal subsidies to proprietary schools amounted to over $2.8 billion, or about one quarter of all federal aid. These dramatic figures by themselves indicate the extent to which federal PSVE policy has been driven by student decisions and local institutional responses — especially the aggressiveness of the proprietary schools in seeking federal aid for their students — rather than by Congressional intention: it is implausible to think that Congress intended such a large fraction of federal support for PSVE to go to proprietary institutions.

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[37] Of the total appropriation of $813 million, $748.7 million went to basic grants, of which we assume 22.6 percent went to postsecondary institutions based on the AACJC study.

[38] In light of the very large amounts of federal aid going to proprietary vocational schools, it is crucial to note that there is no evidence whatsoever about the effects of aid on students in private vocational schools. Clearly federal aid is crucial to access to these institutions, since so many of them rely on federal aid to cover their high tuitions; but whether aid contributes to completion is completely unknown.

What is the effect of aid on student behavior? After all, student aid is supposed to increase access of students (especially low-income students) to postsecondary education, and also to increase their retention. If this intention were unrealized — if, for example, federal aid went to those students who would attend higher education anyway — then an argument could be made that student aid should be diverted to other, more productive uses, including direct funding of postsecondary institutions for the purposes of improving instruction.

However, there is good reason to believe that financial aid does in fact increase access and improve persistence. Furthermore, these effects seem to be stronger for students in two-year institutions: the enrollment decisions of students in two-year colleges are generally more responsive to tuition changes than were those of students in four-year colleges, implying that aid has a larger effect on two-year college students — which includes the majority of PSVE students — than on four-year students.[39] Other research indicates that students from low-income families are more responsive to tuition than are students of higher-income families, a common-sensical conclusion that suggests one reason why students in two-year colleges are especially sensitive to tuition and financial aid.[40] A number of studies have concluded, more directly, that student aid in general increases enrollment in higher education.[41] The most sophisticated of these studies, by Manski and Wise, concluded that grants had a substantial effect on enrollment in two-year colleges and vocational/technical schools but no significant effect on four-year college enrollments.[42] This result suggests that, in order to maximize effectiveness, the majority of federal aid ought to be targeted on two- rather than four-year institutions.

The type of aid provided has not been shown to matter to enrollment decisions, though students obviously prefer grants to loans, and there is a convention that low-income students in particular are loathe to accept loans. In addition, Jackson's results indicate that the offer of an award makes more difference to the enrollment decision than does the size of the award.[43] One implication is that the lower probability of students in community colleges receiving any federal aid, described in Table 1 above, may be especially detrimental in providing access to PSVE for low-income students.

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[39] Larry Leslie and Paul Brinkman, "Student Price Response in Higher Education", *Journal of Higher Education* 58 (March/April 1987):181-204. In addition, a meta-analysis of several studies on the effects of financial aid concluded that the effects in two-year colleges are more powerful than in four-year colleges; see Tulisse Murdock, "It Isn't Just Money: The Effects of Financial Aid on Student Persistence", *Review of Higher Education* 11 (Autumn 1987):75-101. However, the studies included in this meta-analysis were poorly controlled, so these conclusions are suspect.

[40] See, for example, John Bishop, "The Effect of Public Policies on the Demand for Higher Education", *Journal of Human Resources* 12 (1977):285-307.

[41] See, for example, Charles Fields and Morris LeMay, "Student Financial Aid: Effects on Educational Decisions and Academic Achievement", *Journal of College Student Personnel* 14 (September 1973):425-429; Michael Tierney, "The Impact of Financial Aid on Student Demand for Public/Private Higher Education", *Journal of Higher Education* 51 (September/October 1980): 527-545; Gregory Jackson, "Financial Aid and Student Enrollment", *Journal of Higher Education 49* (1978): 548-574.

[42] Charles Manski and David Wise, *College Choice in America* (Cambridge: Harvard University Press, 1983), Ch. 7, especially Table 7.4. This study analyzes the effects of Basic Educational Opportunity Grants (BEOGS), and finds enrollments in four-year colleges slightly *lower* with BEOGS, enrollments in community colleges 32 percent higher, and enrollments in vocational/technical schools 152 percent higher.

Other results indicate that financial aid increases persistence in postsecondary education. [44] However, in this case the form of aid seems to make a difference: studies on the effects of loans have not been especially consistent, suggesting that grants are more influential than loans.[45]Work-study programs have also been found to be effective, as described below. Finally, one meta-analysis of several studies confirmed the influence of aid on persistence, and further concluded that aid has a greater influence on persistence in two-year colleges compared to four-year colleges — because two-year colleges enroll larger proportions of lower-income and minority students for whom financial aid has the greatest impact. However, while these results are consistent with similar findings for the effects of aid on enrollments, they are based on very crude, poorly-controlled analyses of persistence, and therefore may not be that reliable.[46]

The evidence does confirm, then, that student aid increases both access and persistence, and what evidence there is indicates that student aid is more effective for students in two-year institutions — which include the majority of PSVE students — compared to those in four-year colleges. Given these conclusions, the findings in Table 1 indicating that students in community colleges are less likely than other students to receive federal aid are especially disturbing, since these are the institutions where aid is likely to be the most effective. This suggests that subsequent reform of federal aid policy should concentrate on improving the access of community college students to federal aid.

One possible explanation of the lower participation of community college students in federal aid programs involves the complexity of student aid forms. While the complexity of forms has been the subject of complaints for many years, these forms became even more complex in recent years, partly because of the Reagan administration's emphasis on limiting fraud. The complexity is most likely to discourage those who have the most trouble with language and with forms in general, which includes a large proportion of the lower-achieving students who enroll in PSVE. For example, the application for student aid in California requires a twelfth-grade reading level, while the average community college student reads at the ninth or tenth grade level.[47]

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[43] Jackson, op. cit.

[44] Jacob Stampen and Alberto Cabrera "Exploring the Effect of Student Aid on Attrition", *Journal of Student Financial Aid* 16 (Spring 1986): 28-40; Dawn Terkla, "Does Financial Aid Enhance Undergraduate Persistence?", *Journal of Student Financial Aid* 15 (Fall 1985): 11-18.

[45] See Astin; Samuel Peng and William Fetters, "Variables Involved in Withdrawing During the First Two Years of College", *American Educational Research Journal* 15 (Summer 1978): 361-372; Richard Voorhees, "Financial Aid and Persistence: Do the Federal Campus-Based Aid Programs Make a Difference?", *Journal of Student Financial Aid* 15 (Winter 1985): 21-30. One study found that aid packages consisting of grants, loans, and work study (in that order) were the effective in increasing persistance, but found surprising that packages consisting or more loans than grants were more effective than those with more grants; see Eric Jensen, "Student Financial Aid and Degree Attainment", *Research in Higher Education* 20 (1984): 119-127.

[46] Tulisse Murdock, "It Isn't Just Money: The Effects of Financial Aid on Student Persistence", *Review of Higher Education* 11 (Autumn 1987): 75-101.

In addition, the timing of the application process for federal aid generally assumes the model of the "traditional" student, deciding whether to enroll in college up to six months beforehand. However, many postsecondary vocational students make the decision to attend much less in advance, and the time required to complete a financial aid application and process it — 6 to 8 weeks at a minimum — leaves many vocational students ready to attend school before their financial aid is available. This problem is compounded in some states by state-imposed deadlines for SSIGs. For example, California has an application deadline of March 2 for the school year beginning the following fall, so that students who have not made their plans more than six months in advance are effectively ineligible for California Student Incentive Grant money.

The allocation of federal funds for the campus-based programs may also be biased against postsecondary vocational institutions. The formulas for these programs have hold-harmless provisions built into them, in order to assure institutions that they will not lose large amounts of money if enrollments of needy students fall. However, these provisions operate to insure that institutions with the highest amounts of funding when the hold-harmless provisions went into effect in 1979-80 continue to receive at least similar funding. This means that institutions which have been expanding, or more precisely which have been expanding in terms of students in need of aid, are likely to receive proportionately less campus-based aid. In addition, many institutions with PSVE students were among those which were not especially active in student aid programs during the 1970s, and their hold-harmless levels of funding were therefore low; together with restrictions in federal aid during the Reagan years, they have not been able to expand their participation in those particular federal aid programs by as much as their vocational enrollments have increased.

Again, in some states, state practices may have aggravated the effects of low allocations to PSVE institutions. Fifteen states and the District of Columbia preclude students at public vocational/technical schools from receiving any funding through SSIG.[48] While this is a small program, amounting to about 1.3 percent of student aid in fiscal year 1988, such policies are indicative of what may happen to PSVE students when state and institutional discretion is allowed.

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[47] Oral communication, Rick Iwata, Director of Financial Aid, Santa Rosa Junior College. Mr. Iwata had the financial aid form analyzed for its complexity using standard reading-level protocols.

[48] Kenneth Reeher and Jerry Davis, "19th Annual Survey Report, 1987-88", National Association of State Scholarship and Grant Programs.

However, a different explanation for the low participation of community college students in federal aid is that community colleges may have less well-staffed financial aid offices, compared to four-year colleges on the one hand but also compared to technical institutes and especially private vocational schools, which have especially high rates of participation in federal aid. This explanation is corroborated by evidence from California, where much lower participation rates among students in community colleges compared to those at California State University and the University of California have been attributed to inadequate state funding and staffing for the financial aid offices of community colleges, staff overload, and staff turnover and inexperience.[49]

The causes of low participation in federal aid programs among community college students have not been carefully examined by anyone, and thus the reasons we have presented may be incomplete or incorrect. However, given the findings that student aid is more effective in promoting access and retention in two-year institutions than it is in four-year colleges, this pattern is troublesome. While further research may be necessary, our existing information suggests that the solution to low participation in federal aid programs may lie both with changes in federal procedures and with increased efforts by community colleges.

The College Work-Study (CWS) Program

One federal aid program of special interest within PSVE is College Work-Study (CWS), the largest federal program to subsidize employment of college students. CWS, which began as a Great Society program authorized by the Economic Opportunity Act of 1964, provides federal money to pay up to 80 percent of the wages of employed students who qualify for financial aid. Now authorized under Title IV of the Higher Education Act, CWS money flows to institutions, which allocate it to students. CWS aid may be used to supplement the pay of students in jobs on campus, or off campus in nonprofit organizations. The law stipulates that employment shall, "to the maximum extent practicable, complement and reinforce the educational program or vocational goals" of students.[50] However, in practice this federal rule is not strictly enforced.[51] The financial aid objective of putting money in students' pockets appears to be more important than the objective of finding employment related to students' coursework. The two objectives are not incompatible, but college financial aid offices may lack sufficient staff to do both.

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[49] Alfonso Wilson and Ron Dyste, "Testimony Presented to the Assembly Special Committee on Community Colleges", Dec. 8, 1983; and "Financial Aid in the California Community Colleges", Board of Governors, California Community Colleges, Dec. 10-11, 1987.

[50] Christoffel, Pamela (1985). Working your way through college: a new look at an old idea. New York: College Entrance Examination Board, New York.

[51] Augenblick, Van De Water and Associates, (1987). Working while studying: does it matter? An examination of the Washington work study program. Denver, CO: AVA Education Policy/Planning Services.

Between 1965 and 1985 Congress appropriated approximately $7 billion for CWS. In 1984-85 an estimated 870,000 students received CWS awards through 3,600 participating institutions. Between 1978 and 1984 approximately 16 percent of CWS funds went to students at public two-year colleges, three percent to proprietary schools, and two percent to private two-year colleges.[52] Depending on the definition of vocational students, one might guess that the number of postsecondary vocational students receiving CWS awards is roughly 150,000 each year.[53] The average annual CWS award per student is less than $1,000, so that federal support for PSVE through work-study is roughly $150 million per year.

II. WHAT SHOULD THE ROLE OF THE FEDERAL GOVERNMENT BE?

If Congress decides that a specific federal policy toward postsecondary vocational education is warranted, then a crucial question is what the federal government ought to do, and what should be left to states and local jurisdictions. This question is particularly important because direct federal funding for PSVE has been so small in the past, and — given persistent federal deficits and political dislike of raising taxes — there is no reason to think that any substantial increase is likely in the future. Even increases that are substantial in a political sense would be trivial in a programmatic sense. For example, even if federal funding for PSVE through the Perkins Act were to triple, they would increase from an average of 1.4 percent of funding in community colleges and technical institutes to 4.2 percent, still not an amount which could drive policy simply by virtue of funding.

One politically realistic answer to the question of what the federal government should do is simply that it will do whatever Congress can be persuaded to do. If Congress can be persuaded that it should fund the maintenance of existing programs without imposing any independent federal goals, then further consideration of what federal goals ought to be is irrelevant. In the first part of

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[52] Christoffel, op. cit.

[53] This estimate assumes that about three quarters of two-year college students are vocational students., while all the others are vocational. The figure of three quarters comes from information on Associate degrees, where 72 percent of all Associate degrees awarded in 1985 were in occupational areas. In the NPSAS data, of those students enrolled in community colleges who provided enough information to classify them as vocational or academic, 75.6 percent were vocational. Thus the three-quarters figure seems roughly correct.

Section III below, we weigh various options for providing unrestricted funds to states to maintain or expand PSVE programs.

However, a very different response is that the federal government ought to undertake only those activities which states and localities won't fund, or will underfund, if left to their own efforts.[54] This principle might be particularly appropriate in the case of education, where the Constitution by implication delegates responsibility to the states, and where educational systems have developed largely as creations of states. While this principle could be stretched to cover many kinds of federal spending, it has generally been used to justify a small number of federal activities:

1. *Efforts to correct inequalities, both among states and among individuals* . If there are inequalities among states that limit their abilities to provide public services — the differences between low-income Mississippi and high-income Connecticut, for example — then *if* inequalities in some public service is judged inappropriate, some federal intervention is necessary to redistribute resources among states. Indeed, there is no other mechanism available to effect such a redistribution, since unlike wealthy individuals wealthy states are not in the habit of making charitable contributions to their poor cousins.

Correcting inequalities among individuals can be partially accomplished by states, through their tax systems and welfare programs. However, low-income states are limited in their abilities to redistribute, and those states which do attempt redistribution from high-income to low-income individuals may find themselves over time losing their high-income population. In addition, there is a cyclical dimension to this problem: in recessions states — which cannot run deficits — will have their tax revenues reduced just as the need for redistributive programs is most needed. (This argument is especially applicable to programs for displaced workers, whose numbers will be largest in states with the lowest ability to provide such programs.) For all these reasons, then, states may not provide enough for their neediest citizens, and some federal intervention may be warranted.

2. *Supporting pure public goods*. Pure public goods are those goods which benefit everyone in their community, regardless of who pays for them. In this case there is no incentive for any individual to purchase the goods, and collective provision becomes necessary. In the intergovernmental context, some goods — especially the provision of information and research and development — are pure public goods, and an individual state is unlikely to support as much R&D as might be warranted because other states may benefit without paying. This problem has led to a

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[54] This view is formally developed in the theory of fiscal federalism; for some textbook treatments, see Wallace Oates, *Fiscal Federalism* (New York: Harcourt Brace Jovanovich, 1972); Richard Musgrave and Peggy Musgrave, *Public Finance in Theory and Practice*, Third Edition (New York: McGraw-Hill, 1980), Part Five.

justification for federal activity in many different kinds of information gathering, basic research, and the development of model educational practices.

A particular kind of information that might be federally supported is the information needed to make correct consumer choices. In the case of postsecondary education in particular, students are assumed to make well-informed choices about post-compulsory education, given knowledge about their abilities, labor market conditions, and the consequences of different schooling decisions. But if decisions are not well-informed — if a student is unaware of the effectiveness of different institutions, or is misinformed about labor market trends — then educational decisions may be systematically incorrect. While states and localities may provide some of this information, some may be more efficiently provided by the federal government or required by federal regulation.

3. *Correcting externalities and spillovers*. There are other cases in which states (or localities) may pay for a good or service and surrounding jurisdictions benefit without paying, and again some federal action may be necessary to support the level of spending for that program which is appropriate from a national perspective (rather than from the perspective of the individual state). The conventional example of such an externality involves pollution, where any individual state may underinvest in pollution control because neighboring states may benefit. In this case federal intervention is essentially a way of making sure that all beneficiaries pay for pollution control, so that the socially optimal level of control can be established.

In education and training programs, one example of such a spillover involves mobility of educated workers among states. States with high rates of out-migration may not want to support public education from which the state will not benefit. Another kind of spillover involves the distribution of the benefits of a particular education or training program. If the benefits of a well-trained worker are partly captured by firms (in the form of higher productivity and profits), by other workers (who may be more productive when their co-workers are more competent), by consumers (in the form of lower prices which result from higher productivity), or by the nation as a whole (if higher productivity and lower costs increase exports and reduce imports), then individuals throughout the nation may benefit by a state's educational program, and some federal role to increase the level of funding may be justified.

4. *Compensating for uncertainties*. If individuals (or firms) do not like to take risks, then they will systematically under-invest in risky activities — those whose payoffs or consequences are known only on the average, but where the outcomes may differ widely from individual to individual. In other cases, of course, even the average payoffs are unknown, and here individuals may be even more averse to undertaking the activity. Indeed, the consequences of all types of education can be considered risky: even though a college degree is worth quite a bit on the average, its value to any one person depends on the state of the local economy, the particular occupation

chosen, the extent of discrimination based on race, gender, or age, the luck of finding the right kind of position, and other factors beyonds the individual's control.

If individuals underinvest in education because of uncertainty, this implies another justification for government subsidy.

The corollary of the four justifications for federal support is that forms of public spending which cannot be justified in one of these ways should be left to state or local funding, or simply left to the private sector. In particular, this implies that federal funding for the maintenance of programs established by state policy would be inappropriate.

In addition, there is one particular activity in which states may over-invest, and which federal policy should not support. The efforts of states to lure employers from other states is a popular form of economic development, but — while such activities may make sense from an individual state's perspective — they are unproductive from a national perspective because they merely substitute employment in one location for employment in another.[55] Indeed, such efforts may even be counter-productive because there are costs involved in relocation, some of which are borne by governments (in the costs of unemployment insurance and welfare costs), some of which are borne by workers who must relocate or find other employment, and only some of which are borne by firms. There are a few cases where "smokestack chasing" may be justified, especially when a low-income area lures employment from high-income areas — for example, to Appalachia from the northeast. However, except in special cases, federal policy should never encourage or support financially these kinds of "beggar-thy-neighbor" policies, even when they are promoted in the guise of economic development.

Most of the current federal support for PSVE conforms to this view of what the federal government ought to do — at least in intention. The Perkins Act eliminated federal funding for the maintenance of programs, and concentrated funding on two federal purposes: improved access for special populations and improvement. The funds allocated for special populations can all be justified as promoting equity among individuals, of the sort that states (and certainly localities) would be reluctant to fund on their own. (One possible exception is the funding for adults "in need of training and retraining," a description broad enough to encompass almost all of the programs in PSVE. The funds for these programs are difficult to trace, and it appears that they are used in many institutions for the maintenance of on-going programs.)

Similarly, funding for program improvement can be interpreted as supporting those forms of development which would generate general information about ways to improve postsecondary practice, and so could be seen as an example of investing in public goods. However, in practice there is no effort to make sure that the program improvements funded by the Perkins Act generate models or findings for other institutions to learn from, and so the practice of using these funds for "routine improvement" (including equipment) fits poorly with this conception of the federal role.

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[55] It is possible that such a move could be nationally efficient if a firm moves to a state where its real costs of business are lower. However, if this is the case it is unclear why a state incentive to relocation is necessary, unless the higher-cost state had previously offered an incentive to locate there. Many current state economic development efforts are simply defensive efforts to counter the programs of other states, creating a welter of incentives that lower costs to firms but without giving any state clear advantages over the others.

In addition, the Perkins Act funds a series of special programs in the areas of consumer and homemaking education, adult training and retraining aimed at dislocated workers, and career guidance and counseling programs; and also provides for various forms of research and data collection, including the activities of the National Assessment of Vocational Education, the National Center for Research in Vocational Education, some demonstration projects, and data systems. The funding of data and research collection is perfectly consistent with the recommendation that the federal government should support research and information gathering of broad benefit to the nation. Support for dislocated workers can be justified on redistributive grounds; in addition, states which are badly affected by out-migration of employment and plant closings are unlikely to be able to fund projects for dislocated workers, suggesting again a special role for the federal government. Support for homemaking education and guidance and counseling is harder to justify, since — like program improvement funds — these are not administered in ways that might generate benefits to all vocational programs by demonstrating exemplary methods. These programs look more like vestiges from the past, when federal funds supported the maintenance of local programs rather than furthering any special federal goal.

The other major federal funding sources in PSVE can all be justified by the conception of the federal role articulated in this section. Most student aid is explicitly redistributive in intent, since elegibility is based on financial need; the major grant programs — Pell grants in particular — have especially strict need requirements. The TRIO programs all all targeted at low-income and minority students, of course. Similarly, funds through the Targeted Jobs Tax Credit (TJTC) are restricted to individuals who are unemployed or disadvantaged in some way, and eligibility for the JTPA program is highly restricted.

III. POTENTIAL FEDERAL GOALS FOR POSTSECONDARY VOCATIONAL EDUCATION: OPTIONS AND ALTERNATIVES

The Perkins Act sets out quite clearly three overriding federal goals for vocational education: improving access among special populations; improving programs; and supporting research, development, and data collection. Other purposes can be gleaned from the Perkins Act and related pieces of federal legislation including the Job Training Partnership Act and the Omnibus

Trade Bill, which modified both JTPA and the Perkins Act. The support of training for dislocated workers, for workers in high-technology sectors or occupations, and for workers in occupations with shortages of skilled workers are frequently mentioned as federal goals, as are the development of different forms of articulating vocational programs with employers and with academic education. Occasionally federal legislation will promote goals that are quite general, like economic development or economic growth, but as guides for federal policy these are too vague to provide any guidance.

In this section we outline nine potential goals for federal policy in PSVE, examine the justification for the federal government promoting such a goal, and explore the alternative mechanisms by which such a goal might be furthered. These goals are not mutually exclusive; indeed, in some ways the Perkins Act embodies each of them. However, promoting all of them would either require large sums of federal monies that are unlikely to be available, or would require that limited funds be diluted to insignificance. In this sense, then, it may be necessary to choose among possible goals if federal policy in postsecondary vocational education is to have any influence.

Option 1: Maintenance of State Programs with a Block Grant

One possibility — certainly the one that would be the most popular among local administrators — is that the federal government would provide states with relatively unrestricted funds to use as they see fit, to maintain and expand their own programs. This is consistent with the trend during the 1970s and 1980s of converting highly categorical federal programs into block grants, with minimal federal constraints except the need to spend funds in particular broadly-defined program areas — in education, social services, or mental health, for example. Apart from the flexibility such an approach gives states, another justification in the past has been that the federal taxing mechanisms are both more equitable and more efficient than the state and local taxes that would otherwise fund social programs, and also generate more revenue in periods of economic growth.

Consistent with these arguments, one option would be to establish a postsecondary vocational education block grant. A somewhat broader option would be to establish an education and training block grant, combining resources from the Perkins Act and the Job Training Partnership Act and allowing states to support a variety of vocational education and short-term training from these resources. Such an approach would not only eliminate the constraints on spending now embedded in the Perkins Act, but also those in JTPA, including those related to eligibility, performance standards, input from the business community, and other requirements that have defined how JTPA operates.

If a PSVE block grant were established, there are many issues related to the design of such a grant.[56] One option would be to devise a federal formula that would change the allocation of funds among the states. Currently the Perkins Act allocates proportionately more funds to low-income states, but this differential is limited.[57] Greater variation between high-income and low-income states would help PSVE programs in low-income states, which are those with greater needs for serving low-income populations, increasing training as a mechanism of economic development, and retraining dislocated workers. Such a purpose is more clearly consistent with a redistributive federal role than a non-redistributive block grant for maintenance of existing programs would be.

There is little question that a PSVE block grant would be popular with postsecondary educators. How such funds would be used is not entirely clear, partly since states could impose their own priorities on such funds. However, if current practices with Perkins funds are representative, many programs might use unconstrained federal funds as they currently use program improvement funds — for capital equipment in rapidly-changing occupational areas, for new programs — and perhaps for other desperate and underfunded needs like increases in remedial education programs. Given the existing pressures from state and local constituencies on postsecondary institutions to respond to labor market conditions and the changing demographics of the population, it seems likely that free federal resources would be used to help postsecondary institutions respond to these pressures, and Congress might consider this an appropriate way to spend federal funds.

However, the block grant approach would not allow the federal government to specify its own goals, and it is possible that postsecondary programs might spend their funds (as Perkins funds used to be spent) on the maintenance of existing programs, including those that are obsolete and ineffective. Furthermore, in a period when the federal deficit is large, the argument that federal funds are more freely available than state and local funds is no longer valid.

In addition, several justifications for existing block grants seem inappropriate for a PSVE block grant. Many of the existing block grants provide funding for programs supporting low-income people — like the block grants for social services, community mental health, and community economic development — and therefore have a redistributive justification that an all-purpose block grant for PSVE would lack.[58] Most of the block grants fund programs which states have generally not supported, and therefore federal grants provide almost all funding; but in the case of PSVE, where states already provide a great deal of support through public institutions, this rationale would again be absent. The amount of federal funding in a PSVE block grant would remain a trivial fraction of postsecondary spending, unless a major political upheaval takes place, so that federal funding could not have very much influence on the way PSVE is delivered.

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[56] One option would be to make it a matching rather than a non-matching grant, since matching grants are generally thought to be more effective in stimulating spending on particular programs. However, given the small amounts of federal funds that are likely to be involved, this would have to be a closed-ended matching grant; and since all states spent a good deal on PSVE, this alternative would amount to a non-matching grant.

[57] The Act allocates funds to states based on a term which is $(1 - Y_i/Y)$, where Y_i is a state's income and Y is the average for the country. However, the ratio Y_i/Y is constrained to be between .4 and .6.

Option 2: Improving the Access of Low-Income, Minority, and Special Needs Students

A more generally accepted federal goal is the promotion of educational opportunities for low-income students, minority students, handicapped students, and others with special needs. These groups are now the targets of 57 percent of Perkins funds, for example, and low-income students are the beneficiaries of most student aid. Since states are unlikely to be able to fund programs for low-income populations adequately, and since highly redistributive programs might lead to in-migrations of the poor and out-migrations of the rich, redistributive programs have long been accepted as appropriate for federal funding.

The original justification for supporting special-needs vocational students with federal funds emerged in the Vocational Education Act of 1963. The discovery that low-income and minority students were underrepresented in vocational programs (then largely secondary programs) stimulated federal funding in order to increase their access to vocational education. Successive revisions of this Act, in 1968 and 1976, reaffirmed the federal commitment to special groups of students and further elaborated the categories of students to be served by federal funds.

A low-income students or one with other special needs requires several things in order to attend postsecondary education: financial support, both to cover tuition and other living expenses (including some like child care that are specifically related to being in school); and perhaps, depending on the student's preparation and background, special services to encourage enrollment and completion like counseling and guidance, remedial education, labor market information to improve decisions, and special services related to handicaps. While the Perkins Act does allow institutions to provide child care, other supportive services, and stipends, this use of direct funding is comparatively rare. Conversely, federal aid to students is a poor way to induce institutions to provide additional services to special needs students, since they do not pay higher tuition than other students.

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[58] There are, however, some exceptions to this, especially the education block grant.

Thus the rough division of labor that has emerged, quite indirectly, is that student aid programs support the tuition and living costs of low-income students, while the Perkins Act funds some part of the special services certain students may require. But while this is a neat justification for the existing configuration of funding, there are several aspects of Perkins funding for special needs students that are awkward. One is simply that the sums involved seem quite low, compared to student aid, to the amounts in secondary education, and to the total revenues in community colleges and technical institutes. As Section I clarified, student aid funds in PSVE are quite substantial, amounting to perhaps $4.1 billion per year, with about $1.25 billion of that supporting vocational students in community colleges and public technical institutes. In contrast, Perkins funding for special needs groups amounted to $465 million in fiscal year 1987, and of this perhaps 22.6 percent or about $125 million went to postsecondary institutions, only one tenth the amount of student aid to these institutions.[59] However measured, the direct federal funds in PSVE for special needs students are tiny compared to federal funds provided through the student aid program.

Another way to think about federal policy for special needs students is that it should remove the barriers to their attendance and completion. Although it is unclear what the extraordinary costs of special needs students might amount to, it is inconceivable that the comparatively small amount of Perkins funds is sufficient to cover these costs. Furthermore, as the following section clarifies, rates of non-completion in PSVE are especially high among low-income and minority students. Evidently, federal spending through the Perkins Act and student aid programs have not been successful in providing the resources necessary to assure equal rates of success of all students.

One option, then, is simply to increase the amounts of Perkins funds for special-needs set-asides. Another variant of this option, described below in more detail as Option 4, would be to establish a separate program for remediation. While this would not cover all the different types of special needs — it would not, for example, provide services for handicapped students, or child care for single parents — it would cover what appears to be the largest and most pressing of the special services now provided to a range of low-performing students.

A third alternative — one which would be particularly attractive if Congress decides not to increase appropriations for vocational education — is to abandon the current approach of sprinkling funds for special needs students thinly among institutions, and instead to invest these funds in efforts to design exemplary and effective programs which others might follow. This approach also seems attractive because many of the special-purpose programs, particularly those for single parents and homemakers, seem not to be well-integrated into postsecondary institutions, and remain peripheral and dependent on uncertain federal funding. In this case, a better use of limited federal resources might be to develop exemplary programs, and then to promote their incorporation into PSVE institutions with appropriate dissemination, rather than funding random projects that have no lasting power and no demonstration value to other institutions. The particular kinds of efforts that might be included are described in greater detail under Option 5, dealing with program improvement.

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[59] These estimates rely on the AACJC estimates of amounts in postsecondary *institutions* rather than the NAVE estimates of the amounts spent on postsecondary *students* in order to compare them with estimates of federal grants and loans, which describe student aid to postsecondary institutions.

However, one serious drawback to the alternative of abandoning institutional funding for special-needs students in favor of demonstration projects is that this approach assumes that the resource limitations are less serious than knowledge of what approaches work. More likely, both are problems. Although most community colleges and technical institutes are acutely aware of the need to serve low-income and minority students — and have in fact claimed their distinctiveness from the rest of higher education in these terms — the resistance in states to funding special programs that will largely go to low-income students would persist, so that the strategy of funding demonstration projects might generate better knowledge but but still leave PSVE institutions without the resources to implement model programs.The most effective approach would be a combination of institutional funding for special-needs students in concert with demonstration projects to increase awareness and knowledge — though this would also be the most costly.

Option 3: Improving Completion Among Special-Needs Students

Another problem with the current federal policy in PSVE is that its purpose with respect to special needs students has not been clarified. The conventionally stated purpose of student aid is to improve *access* to postsecondary education — that is, entry into higher education. This approach does not necessarily stress the need to support *completion* of programs. The Perkins Act stresses neither access nor completion, since it does not articulate any postsecondary goals at all, though the uses postsecondary institutions make of special-need funds implicitly recognizes that completion is a problem for these students and requires additional services.

In fact, other research performed for the National Assessment of Vocational Education indicate that rates of non-completion in postsecondary education are high and and have increased about 50 percent between the early 1970s and the 1980s. Furthermore, non-completion is substantially higher for low-income students, minority students, and those who performed poorly while in high school.[60] One possible goal of federal policy, therefore, would be to articulate more clearly that completion rather than simple access is a federal goal in its PSVE policy, and to orient its efforts toward that goal.

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[60] W. Norton Grubb, *Access, Achievement, Completion, and "Milling Around" in Postsecondary Vocational Education*, MPR Associates for the National Assessment of Vocational Education, draft, June

The goal of completion introduces a large number of complications because the definition of completion in PSVE is less clear than it is in high school, where the high school diploma is a clear measure of completion.[61] At the postsecondary level, educators have long argued that many students enter not to obtain a certificate or Associate degree, but to complete a smaller number of courses related to their immediate employment needs. While this position has considerable merit, it also ignores the fact that many students with initial intentions of completing credentials in two-year institutions fail to do so.[62] In addition, there has never been any good evidence that small amounts of PSVE provide students with any benefit, or that students leaving before completing credentials find employment related to their vocational training.

The debate over who is and is not a completer illustrates the need to define completion more carefully before moving to a policy to enhance completion. At the moment completion and non-completion are defined only by certificate and Associate degree requirements,[63] which in turn are specified by state and local policy but not by federal policy. Without a clear definition of completion, it becomes difficult to implement any attempt to enhance completion rather than access.

There are several ways for federal policy to orient PSVE toward completion rather than simple access. One would be to make federal funding contingent on completion. For example, JTPA programs often use performance-based contracts in which they pay only for students who are placed in jobs; an analogue in PSVE would be to make federal institutional funding contingent on completion rather than enrollment. For example, federal policy could force states to allocate Perkins funds to local institutions based on completion rather than, as many now do, by enrollment or average daily attendance. An analogous proposal has been made to convert student grant programs to completion-contingent grants, where students are loaned funds that are then converted to grants if they complete degrees.[64] However, unless completion is defined as attainment of a

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20, 1988; W. Norton Grubb, "Dropouts, Spells of Time, and Credits in Postsecondary Education: Evidence from Longitudinal Data", forthcoming, *Economics of Education Review*.

[61] However, even at the secondary level vocational completion is ambiguous, because it requires that a vocational program be defined.

[62] For example, in the results cited in the previous footnote, 54.3 percent of the Class of 1980 who said they wanted to complete a sub-B.A. degree — presumably a certificate or Associate degree — and who entered a community college left postsecondary education without completing any credential, up from 36.6 percent in the Class of 1972. However, it is unclear whether these reported intentions are accurate reflections of student plans, whether they are unrealistic aspirations, or whether they reflect some complex amalgamation of plans, dreams, socially appropriate responses, parental hopes, and other inchoate longings.

[63] Reportedly the Texas State Technical Institutes tried to develop "early exit options" — a series of exit points short of certificate or degree completion where many students left because they had completed enough coursework to get certain types of jobs. However, the extent and effects of such efforts to define completion other than certificate and Associate degree completion is unknown.

[64] F. Fisher, "Graduation-Contingent Student Aid", *Change*, November/December 1987.

certificate or Associate degree, there is currently no mechanism by which completion can be defined for purposes of such a mechanism. What is worse, such an approach creates further incentives for "creaming", or accepting only those students most likely to complete — a result which would operate directly contrary to the federal goal of increasing completion among special-need students. Furthermore, in the absence of federal definition and monitoring of what completion means, such an approach would generate incentives for local institutions to redefine certificate programs to be shorter in order to increase apparent completion rates.[65]

One implication is that it is premature to move towards a program of federal funding for PSVE that is contingent on completion. However, there are two strands of federal policy that might operate to improve completion. One is to earmark funding for programs to improve completion, as outlined below in options for program improvement. Another would be to set aside a small amount of federal funds for programs that demonstrate they have high completion rates.[66] This could be modeled on the so-called 5 percent incentive funds under JTPA, which earmarks 5 percent of a state's allocation for exemplary programs, with criteria for selection chosen by each governor. Because the amounts of money would be relatively low, there would be little incentive to "cream" or to distort the content of their programs to artificially boost completion rates. However, a limited program of incentive funds would provide a target for those institutions which want to improve completion rates. Furthermore, if institutions want to participate, then they would have to generate the data necessary to compare completion among institutions — generating more information about completion than is currently available.

The greatest benefit of such a set-aside might be the increased attention it would generate for the problem of completion. It can be argued that JTPA operates not by articulating and then enforcing performance standards — since very few programs ever lose funds for failing to meet performance goals — but rather by creating a "culture" within which program operators pay more attention to performance than would be the case in the absence of standards. The important elements of this culture include 5 percent incentive funds and performance standards, together with the data systems necessary to measure performance. In a similar way, a small amount of federal funds earmarked for completion-related incentive grants, together with demonstration programs to develop model efforts to increase completion, might reorient PSVE institutions to become more concerned about completion than simple access.

Option 4: A Federal Program for Remediation

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[65] Charles Manski, "Graduation-Contingent Student Aid: A Preliminary Assessment", University of Wisconsin, Madison, June 1988.

[66] Of course, the advantages of creating a set-aside specifically to improve completion must be weighed against the disadvantages of loading up federal legislation with minutely prescriptive set-asides.

The need for remediation has grown substantially in the past few years, and currently a large portion of the Perkins funds for disadvantaged students is spent on remediation.[67] While the use of funds for remediation is certainly legitimate and responds to a pressing need, this practice reduces the resources available for job-specific training, and so the principal purpose of vocational education — to provide job-related education — is subordinated to the more basic issue of providing basic skills. Large (but unknown) sums are also spent through the JTPA program on remediation; and with the advent of a welfare reform bill that stresses education and training to reduce the welfare rolls, yet another strand of federal policy will support remediation. Finally, the TRIO programs provide yet other sources of federal funds for remediation, especially through Student Support Services. In bits and pieces, then, substantial amounts of federal funds are supporting remedial education for adults, though there is no coherent policy to do so.

One alternative would be to acknowledge the pervasiveness of deficiencies in basic skills, and to establish a coherent federal program for remediation. (It would also be possible to expand the existing TRIO programs, since the amounts of current funding for these programs is clearly insufficient given the demands for remedial education.) This would, if successful, alleviate the need for every other program to spend its resources for remediation; for PSVE, it would allow federal funds to be used to develop innovative job-related education, rather than being used for lower-level basic education. In addition, this approach could more readily work with high schools and junior high schools so that the causes of skill deficiencies could be remedied, whereas most current federal programs that provide remediation have no opportunity to intervene in the operations of secondary schools. In many ways such an approach might be for secondary sand postsecondary education what Chapter I programs are for the elementary grades — though the federal remedial program could also extend to adults outside educational institutions. A final advantage to a coherent federal remediation policy is that it could support demonstration projects and model programs, giving institutions that provide remediation better information about exemplary and effective approaches.

While it is probably premature to make federal funding for PSVE contingent on completion or other performance measures, remedial education lends itself better to performance-based measures than other forms of education. One option, therefore, would be to provide federal funding for remediation to a variety of organizations — much as JTPA now allows training and other job-related services to be provided by a variety of schools, community colleges, community-based organizations, private non-profit organizations, firms, unions, and private vocational schools — but where funding would be contingent on students achieving some specified increase in basic English and math competencies.

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[67] See, for example, the information contained in Exhibits 4.2 and 7.10 of the Abt reported cited in footnote 2 above.

Option 5: Program Improvement

Yet another option for federal policy is to promote program improvement, change, and reform. Like the support for special-needs students, program improvement is already incorporated into the Perkins Act, accounting for 43 percent of funds.

However, it is worth examining more carefully what the rationale might be for *federal* support of program improvement. After all, any state that aspires to a high-quality system of PSVE should on its own support mechanisms of program improvement, including methods to make sure that courses are updated, systems for course and program review to make sure that vocational programs are both necessary and non-duplicative, programs to improve teaching, planning and evaluation requirements, and the like. The concern with quality should not be merely a federal concern *except* where the development of new methods is necessary, and where such development could be expected to benefit institutions nation-wide.

This implies that federal policy should support only those forms of program improvement with implications for programs across the country, rather than program improvements whose benefits are confined to one institution. The support of program improvement through the Perkins Act does not in any way embody this view. Instead, the use of program improvement funds for equipment, and for updating courses and instituting new ones, illustrates the support of relatively routine improvements with no benefits for other programs. Indeed, given the relatively small amount of money for program improvement, and the way the provisions of the Perkins Act have been interpreted, there is good reason to think that program improvement funds do not substantially redirect PSVE spending but instead maintain existing programs and routine improvements.[68] Furthermore, there have been no efforts, by OVAE or any other federal office, to use the insights gained in any one program for the benefit of others.

There are several generic ways in which the federal government might fund program improvement. One is to continue the current mechanism of Perkins set-asides, without any further attempt to specify what improvements can be supported or to force the dissemination of results to other states. However, if the Congress continues funding "routine" improvements, then the inequities of the Perkins mechanism in allocating these federal funds should be examined. In most states, the division of program improvement funds between the secondary and the postsecondary levels is made by a state department of education; the allocation of the postsecondary funds to local institutions is made in some states by a formula process and in others by an RFP mechanism.[69] In practice, this means that the access of PSVE institutions to program improvement funds is wildly uneven, with many institutions receiving nothing while some receive substantial amounts. A more equitable approach would be to allocate a fixed sum for postsecondary program improvement and then require states to distribute this to institutions by formula, depending (for example) on enrollments or credit hours. It should be noted, however, that formula funding (in place of RFPs) might reinforce the current tendency for institutions to spend money on routine operations and maintenance of existing programs.

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[68] See again Stephen Barro, *Resource Allocation and Targeting Under the Perkins Act.*

But a very different conception of the federal role would be to redirect funds to program improvement efforts that advance basic knowledge about effective vocational practices. In this vein, a second alternative would be to allocate sums to states for program improvement in PSVE, and then to require states to establish their own priorities for allocating these funds to local institutions. This would have the desirable effect of strengthening the ability of state PSVE agencies to develop their own priorities, to administer program improvement, and to integrate federal funds with state funds for improvement. This mechanism might also focus greater attention within states on the outcomes of PSVE. If such an approach were to serve the federal goal of generating results useful in other states, it would also be necessary to require some federal agency — for example, OERI or OVAE — to collect the results of state program improvement efforts for dissemination to other states. In funding states to provide program improvement, the federal government could specify a list of problems or issues which program improvement efforts should address, from which states could choose. This would facilitate the development of model programs for dissemination purposes, since several states would choose any particular issue for their state program, and thus several states could contribute to information about what works and what doesn't in any particular topic.

A third alternative would develop an even stronger federal role. This is an approach we label "coordinated social experimentation": the federal government would establish priorities for program improvement, and then use project grants to fund demonstration projects in these areas. Demonstration projects on one particular subject would be funded in several states, to investigate the influence of different state PSVE structures, labor market conditions, and demographic profiles on program outcomes. The projects would then be carefully evaluated, again as a way of learning what novel approaches have the most promise, and the results would then be widely disseminated. This approach has the merit of allowing the federal government the greatest capacity to define federal priorities for program improvement, and it is the most likely to generate good evaluation results.[70] It has the disadvantage of doing nothing to improve the capacity of the states to invest in program improvement, and it would not in any way help local PSVE institutions with the costs of "routine" improvement.

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[69] National Assessment of Vocational Education, *Second Interim Report to Congress*, Table 2-7. About 30 percent of the states use formulas and 52 percent use RFPs to allocate program improvement funds for postsecondary vocational education.

"Coordinated social experimentation" requires that federal officials be able to act as more than administrators of federal funds concerned with compliance. This kind of program improvement requires that federal officials include individuals with extensive knowledge of PSVE, with the ability to discern (presumably in conjunction with state and local educators) what the most serious problems in PSVE are, and with knowledge of both program design and the technical details of program evaluation so that they can establish and evaluate demonstration projects correctly. These functions could be performed within a research office like OERI, within the National Center for Research in Vocational Education or some other external research organization, or within a special division of OVAE; but if left to chance and the vagaries of the civil service system, such an effort would be almost useless.

The three alternative ways of allocating funds for program improvement could be applied to an almost endless list of specific issues and problems. Federal legislation might specify these issues, or leave the decision about which are the most serious to state or local administrators. However, there are a number of problems in PSVE that are both relatively serious and widespread, and developments that are underway in many institutions, so that they should be of interest across the country (rather than in just a few areas). Among the most important areas of program improvement to consider are the following:

1. Defining and improving retention:[71] Previous work undertaken by NAVE has reveal that students in community colleges, technical institutes, and private vocational schools have high rates of failing to complete credentials (certificates and Associate degrees), and that many of these non-completers accumulate very few course credits. Furthermore, the rates of non-completion have increased by about 50 percent from the early 1970s to the early 1980s. While some causes of this increase are beyond the control of postsecondary educational institutions — like reductions in student aid and declining performance in high school — there are steps that PSVE institutions can take to improve completion rates. Indeed, California has just instituted a system of "matriculation" — a process of assessment, remediation, and guidance designed to make sure that students clarify their goals, recognize and remediate any deficiencies in their preparation, and make steady progress toward their goals; Miami-Dade Community College, widely considered the best two-year institution in the country, instituted a similar system several years ago.[72] However, across the country there have been relatively few systematic efforts to address the problem of dropping out of PSVE. In fact, the most common reaction has been to define the problem away by declaring that students entering two-year institutions have limited goals that can be met with a few courses, and so students who appear to be dropouts have in fact completed what they intended to do.

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[70] This proposal is very similar to one offered by Steven Barro, *Resource Allocation and Targeting Under the Perkins Act.*

[71] Reducing dropout rates is an important issue for students enrolled in academic programs as well as vocational programs, of course. However, dropping out may be especially serious for postsecondary vocational students because so many of them are in community colleges and technical institutes where dropouts rates are the highest.

Thus any program to improve completion must start with an effort to define what completion means, and to force students to specify their goals; this in turn implies a system of assessment and counseling for students entering PSVE. Remediation efforts are also likely to be crucial, since many students are reported to enter PSVE with serious deficiencies in basic skills. Continued guidance and counseling may also be valuable, along with the kinds of monitoring systems established at Miami-Dade to provide information on whether students are making regular progress. There are many other potential elements of programs to increase retention, all of which could emerge — and be evaluated for their effectiveness — as part of program improvement efforts.

2. Integrating academic and vocational education. One of the persistent issues in vocational education has been the breadth of education. Vocational education often distinguishes itself from job training by the length and breadth of its programs, compared to training programs (for example, those under JTPA) that may last from 12 to 18 weeks. However, vocational education has been pulled in two directions on the question of breadth, and vocational programs have often been criticized for becoming overly specific. At the postsecondary level, this may be a special problem for customized training or contract training — training provided by community colleges and technical institutes for specific firms — which tend to be shorter and more firm-specific than regular certificate or Associate programs. The business community has also been of two minds about the breadth of education: at the same time that national business leaders have criticized the "narrow vocationalism" of many programs, local firms have pressed PSVE institutions to provide them with specific training.

The breadth of vocational education and its relationship to academic subjects is particularly crucial in fields related to developing technologies, including the health technology areas, the technical and engineering occupations, and the computer-oriented occupations within business. These areas of PSVE have been growing faster than the nontechnical areas during the 1970s and 1980s. In the most recent evidence available from the Class of 1980, for example, 25.7 percent of

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[72] John Roueche and George Baker, *Access and Excellence: The Open-Door College* (Washington D.C.: Community College Press, 1987).

Associate degrees and 21.2 percent of all vocational credits in community colleges and technical institutes were in technical and engineering fields; another 12.7 percent of Associate degrees and 10.5 percent of vocational credits were in health fields, including nursing and a wide variety of health technology areas; and the large business area included many more degrees and credits in computer-related subjects.[73] Yet the problem of adequate preparation in basic academic subjects still affects PSVE institutions — as the large amount of remedial education attests — and keeps some students (especially minorities and those who performed poorly in high school) out of technically-oriented fields of study. Furthermore, in many community colleges there is a substantial division between academic faculties, who typically have higher status and power, and vocational faculty — a division which makes the integration of academic and vocational education more difficult.

Just as there has been growing interest at the high school level in ways of integrating academic and vocational subject matter, a variety of proposals to do this exist at the postsecondary level. One is the 2+2 plan, in which students take crucial math and science courses in high school in preparation for technical training in postsecondary institutions. Another — the most common — is simply to require a "core" of academic courses alongside vocational courses. In other institutions, there has been experimentation with more novel forms of integration, in which academic subject matter is incorporated into vocational courses rather than being presented in parallel courses.

One fruitful area for federal support, therefore, would be the development of alternative models of how to integrate academic and vocational education. Although this might be especially important for technical fields of study, it should extend to all occupational areas since almost all of them require that students have mastered certain basic skills. These alternative models might also address the issue of how shorter programs of study in PSVE — including customized training — can make sure that students are adequately trained in necessary academic subject matter.

3. Articulation with other institutions. Increasingly, work-related training is being seen as important to a variety of social goals — including economic growth and development, and the reduction in unemployment and poverty — as well as to the economic advancement of individuals. However, work-related training is now provided by a variety of programs and institutions, including high schools, area vocational schools, community colleges and postsecondary technical institutions, the JTPA program, emerging workfare programs, and firms. One persistent problem in this area is the coordination of these different programs so that their efforts are consistent, non-duplicative, and rationally articulated.

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[73] See W. Norton Grubb, *The Postsecondary Vocational Education of 1980 Seniors*, MPR Associates for the Center for Educational Statistics, U.S. Department of Education, LSB-87-4-10, May 11, 1987.

In the past, the dominant approach to coordination has been to mandate coordination, for example through federal requirements relating to the composition of governing boards and the requirement that vocational programs and JTPA programs advise each other of their plans. These requirements have led to a great deal of "paper coordination", but not necessarily to meaningful collaboration. A different approach would be to fund a series of demonstration projects involving coordination among different programs. One model for such a program is the JTPA 8 percent set-aside, which provides JTPA funds for use in educational institutions. However, by and large there have been few efforts to use the results of projects funded with 8 percent funds to show other institutions how coordination might be achieved. A few states (like California) have promoted some of their exemplary 8 percent projects within the JTPA community; but these efforts are inconsistent across states and the federal government makes no effort to accumulate knowledge of exemplary efforts at the national level.

One option for federal funding, then, would be to fund demonstration projects involving articulation with other institutions providing job-related training, including JTPA, the workfare programs now emerging, and the handful of state-funded job training efforts. Following the model of "coordinated social experimentation", these efforts could then be carefully evaluated and the results disseminated nationally, as ways of promoting articulation among institutions rather than instituting meaningless coordination requirements.

The issue of articulating PSVE with other institutions is broader than coordination among public programs. Another important area involves the relationships between PSVE and employers. These relationships now take various forms, from the use of advisory committees of various sorts to the kinds of close partnerships that can exist in customized training. While there already exist efforts to promote closer relationships between PSVE and industry,[74] a federal effort to promote articulation between PSVE and other institutions might fund demonstration projects that would be more carefully evaluated than existing efforts have been, examining some of the possible disadvantages of such partnerships — particularly their danger for promoting overly-specific training to the long-run detriment of workers, and their possible use in "beggar-thy-neighbor" policies — as well as their obvious potential benefits.[75]

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[74] For example, the AACJC's Keep American Working project now presents awards to exemplary institutions which establish cooperative relationships with business, and has published a volume describing some of these efforts; see.Philip Day and Koosappa Rajasekhara, *Keeping America Working: Profiles in Partnerships*, AACJC, 1988. In addition, the new Omnibus Trade Bill authorizes funds through revisions of the Perkins Act for industry-education partnerships.

[75] For more detail, see W. Norton Grubb, "Simple Faiths, Complex Facts: The Role of Vocational Education in Economic Development", in Jurgen Schmandt and Robert Wilson, *Growth Policy in the Age of High Technology: The Role of Regions and State Governments*, forthcoming.

4. *Delineating secondary and postsecondary responsibilities.* One particularly troublesome form of articulation in vocational education involves the delineation of responsibilities between secondary institutions and PSVE. Currently there is no attempt within federal legislation to specify what the roles of each level should be; the mechanism in the Perkins Act — designating a single state agency to administer federal funds — implicitly assumes that any such delineation will be left to the individual states. However, this issue is one which the states have found very difficult to address. While each state must divide federal funds between secondary and postsecondary institutions, this process is very often a bitter battle over "turf" and discretionary money, and does not allow states to engage in the much more difficult issue of specifying what secondary and postsecondary institutions ought to do.

Despite the expansion of PSVE in community colleges and technical institutes during the 1960s and 1970s, no conceptions of secondary versus postsecondary responsibilities emerged until recently. Both levels have offered (or tried to offer) job-specific preparation in a variety of occupational areas including agriculture, business and marketing, health-related occupations, and the trades. As a practical matter, PSVE has provided most of the instruction in technically sophisticated areas like the training of engineering technicians and health technicians; in computer programming, operation, and repair; and in areas like education, child care, police and fire protection, and communication, that typically require more than a high school diploma. A large fraction of secondary courses have been in exploratory areas (like career exploration and introductory courses), in typing, and in home economics. But since there has been considerable overlap between the programs offered at each level, the potential for "turf battles" has been great.

Within the past five years, however, a possible division of labor between the secondary and the postsecondary levels has developed. This conception has been driven partly by the attack on vocationalism at the high school level, with an emphasis on the need for high school students to master first basic skills and then more advanced "critical thinking" capacities, and partly by mounting evidence that the economic returns to secondary vocational education are very limited.[76] The delineation that has emerged is that PSVE should be responsible for job-specific vocational preparation, while high school programs concentrate on "academic" skills and on the general education courses which might be prerequisites for job-related preparation at the postsecondary level, or which might be useful to all students contemplating their future employment. Examples of activities the high schools might undertake include career education, to enable students to understand how labor markets operate and what their options might be; the math and science prerequisites for technically-oriented occupations; general courses preparing students for clusters of occupations; and courses integrating "academic" and "vocational" material like the Principles of Technology and other "applied academic" courses developed by the Center for Occupational Research and Development (CORD).

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[76] The evidence indicates that the returns to secondary vocational education are zero except for business and clerical programs for girls, and perhaps for students who find employment in the area they have been trained. However, the fraction of high school students finding employment related to their training is so small — about 9 percent percent in the Daymont and Rumberger study — that these results seem to confirm the uselessness of secondary vocational education as a form of job preparation. For the best studies on the effects of secondary vocational; education, see Thomas Daymont and Russell Rumberger, "The Impact of High School Curriculum on the Earnings and Employability of Youth", in Robert Taylor, Howard Rosen, and Frank Pratzner, *Job Training for Youth* (Columbus, Ohio: National Center for Research in Vocational Education, 1982); John Grasso and John Shea, *Vocational Education and Training: Impact on Youth* (Berkeley: Carnegie Council on Policy Studies in Higher Education, 1979); and Robert Meyer, "The Labor Market Effects of Vocational Education", The Urban Institute 1981.

This particular delineation of responsibilities has gathered support within the past few years, and draws upon a longer history of critiques calling for more general forms of vocational education. Still, it is difficult for secondary schools and postsecondary institutions to know how to proceed. Some efforts to articulate high schools and community colleges in 2+2 programs have developed, of course, and there are many experiments across the country to integrate basic skills into vocational courses, or otherwise to integrate academic and vocational education; many states have developed initiatives to do so.[77] However, these efforts are still highly experimental, and they are often fragmented; for example, efforts to develop 2+2 and other forms of articulation are often divorced from efforts to developed more integrated forms of academic and vocational education. One option, therefore, would be for federal policy to earmarks funds specifically for demonstration projects to develop new conceptions of the relationship between secondary and postsecondary vocational education, and in particular to clarify the implications for high school curricula of adopting such conceptions.[78] One benefit of such an approach is that many different forms of delineation could be expected to emerge from such demonstration projects, enriching the possibilities for coordination between high schools and postsecondary institutions.

5. Experimentation with performance-based funding. While it may be premature to shift federal policy for PSVE to performance-based funding, some small-scale experiments with this approach might be valuable in assessing its possibilities and limits. In particular, experiments would help define the possible answers to a series of difficult questions about performance-based funding: How can performance in PSVE be defined and measured? If performance is defined in terms of completion, how should completion be defined and measured? How can performance-based systems be created that avoid incentives for "creaming"? How will community colleges, technical institutions, and other institutions providing PSVE react to performance-based funding? One goal should be to test different types of performance-based funding systems. That is, some plans would define performance in terms of completion versus non-completion; others might define performance in terms of achieving specific competencies in particular occupational areas; and others could shift to employment-related criteria like placement and earnings levels. The mechanisms by which funding is tied to performance could vary as well.

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[77] Charles Losh, Barbara Border, and Diane Bishop, "Integrating Vocation-Technical Education and Basic Academic Skills: A Status Report", National Association of State Directors of Vocational Education, September, 1988.

[78] One bill now before Congress, H.R. 5290 sponsored by Congressman Ford, would provide federal support for "tech-prep" programs.

The most obvious option would be to authorize funds for demonstration projects using performance-based funding, to be administered within the Department of Education and carried out in a limited number of states across the country. This would facilitate the careful evaluation of such experiments, and would make it simpler to specify particular models of performance-based funding. However, this approach would not allow states to engage in the process of defining performance and develop their own performance-based funding alternatives. If one purpose of experiments in this area is to stimulate the existing systems of PSVE to consider performance more seriously, then forcing states to develop their own systems might be the best approach.

Another option would be for federal legislation to establish a small sum of funds, modeled on the governor's 5 percent set-aside in JTPA. These funds are used by Governor's "to provide incentive grants to programs exceeding performance standards, including incentives for programs serving hard-to-serve individuals." Such a program would obviously require governors to establish performance measures of some sort, and then to gather information from PSVE institutions about their performance on these measures. Both the process of defining performance and the need to collect standardized data within a state on performance would be valuable activities, compelling every state's PSVE system to grapple with different conceptions of performance. Because the sums involved would be a relatively small proportion of overall federal funding, institutions would have less incentive to engage in "creaming" just for the purposes of a small award. To be sure, many institutions might choose not to participate in such a program, considering the benefits of small sums of money not to be worth the trouble of collecting new data or the potential humiliation of being shown to be a low-performing institution. However, if the experiences of JTPA and of performance-based funding for higher education in Tennesee are guides, the mere existence of some performance system and some funds rewarding better performance would lead to increased consciousness about performance in the PSVE system.[79]

A third option would be to provide federal funds specifically for states to establish their own performance-based system of funding. (This could be a matching grant as an inducement for states to commit their own funds to such a system.) Alternatively, federal guidelines could delimit the kind of performance-based systems the states might adopt with such funds.

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[79] For information about performance-based systems, see the study forthcoming from MPR Associates for the National Assessment of Vocational Education on options for performance-based funding of vocational education.

Option 6: Supporting Related Work Experience Programs

One specific form of program improvement, and a potentially powerful option for improving students' performance in PSVE, is to link classroom instruction with jobs that let students use what they are learning. It has been claimed that such jobs can strengthen students' motivation, leading them to study harder, learn more, complete their required courses (though there is also some risk that employment may slow students' progress in school), and become more productive in their future careers. In addition, paid employment reduces the financial burden of schooling for students, their families, and taxpayers, who would otherwise provide financial aid.

Of course, some resources are required to produce these benefits. The cost of providing jobs related to students' coursework includes the time instructional staff spend arranging placements and monitoring students' work, as well as the time job supervisors spend giving special attention to students. Federal funds to support these costs have been available through categorical aid to postsecondary institutions for developing programs of cooperative education (co-op). In addition, the federal government has paid wage subsidies for students in the College Work-Study (CWS) program or for co-op students in the Targeted Jobs Tax Credits (TJTC) program.

Federal support for work experience programs can be justified in several ways. First, most of these programs support low-income students, so that they are redistributive. In addition, to the extent that work-study or cooperative education improves the learning of students in PSVE, they can be interpreted as forms of program improvement, with federal support justified by the demonstration value of such programs to all PSVE institutions nationwide.

Trends in Paid Employment of College Students

From 1959 to 1986, labor force participation rates of college students rose from 52 to 62 percent among males, and from 36 to 60 percent among females (U.S. Bureau of Labor Statistics, various publications). These figures include both part-time and full-time students between the ages of 16 and 34, at both two-year and four-year colleges.[80]

Trends in two-year colleges are especially relevant to this discussion because much PSVE takes place here. The National Longitudinal Survey of Youth Labor Market Experience (NLSY) distinguished between students in two-year and four-year institutions. Among those who were attending either two- or four-year colleges, the fraction holding paid jobs during the survey week (in the spring) increased from 49 percent in 1979 to 67 percent in 1986. These percentages do not include individuals who were unemployed and looking for work; i.e., they are employment rates, not labor force participation rates. Among students in two-year colleges only, the rise in employment rates between 1979 and 1986 was from 56 to 70 percent; for males the increase was from 54 to 71 percent, and for females 57 to 70 percent.

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[80] Published BLS reports do not permit construction of separate trends for students in two-year and four-year institutions.

To some extent the sharp rise in employment rates among college students in the NLSY sample is attributable to the aging of the NLSY cohort, since older students are more likely to work. It is possible to net out this effect by comparing students of the same age in different years. Considering 21-year-olds only, the increase in employment rates among students in either two- or four-year colleges was from 52 percent in 1979 to 63 percent in 1986. Among 21-year-old students in two-year colleges, the rise in employment rates between 1979 and 1986 was from 51 to 76 percent; for males the increase was from 57 to 77 percent, and for females 45 to 75 percent.[81]

This information confirms that increasing numbers of college students are holding paid jobs while they attend school, and that students in two-year institutions are more likely to work than those in four-year colleges It is likely that this trend will continue for at least another decade due to demographic factors alone, as individuals born during the "birth dearth" of the 1960s and 1970s continue to reach the normal age of college attendance and find that jobs are relatively plentiful because the size of these cohorts is small. Assuming that federal policy is not going to oppose this trend, the issue is whether students' work can somehow be made to enhance their performance in school. This issue is especially relevant to students in PSVE, whose studies are focused on preparation for employment.

The Effects of Paid Employment

Whether or not paid employment advances college students' future prospects depends on how it affects their performance both in school and in the labor market afterward. If working during college does not affect school performance but does lead to higher salaries subsequently, then this is an unambiguous benefit. On the other hand, if paid employment tends to lower grades or diminishes students' chances of completing their programs, then this could hurt them in the long run.

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[81] It should be noted that limiting comparisons to 21-year-olds makes the sample rather small: by 1986 there were only 22 males and 20 females in the sample of 21-year-olds attending two-year colleges. Nevertheless, the trends are qualitatively consistent with those for the larger NLSY sample and for the still-larger BLS sample.

These concerns have prompted a number of efforts to determine what the effects of students' employment actually are.[82] Stephenson analyzed data from the National Longitudinal Survey of Young Men and found that employment during school was positively related to wages a few years afterward.[83] This study treated employment during school as exogenous. That is, he did not take into account the possibility that employment during college and subsequent success in the labor market might both result, at least in part, from other variables such as ability or ambition. Therefore, Stephenson may have overestimated (or, possibly, underestimated) the true effect of employment during college on subsequent earnings. However, a subsequent study by San, using the same data set, also found that work during college was positively associated with earnings a few years later, even allowing for work during college to be endogenous.[84]

Although a complete model of employment during college, performance in school, and subsequent performance in the labor market is not yet available, several studies have produced partial analyses of the relationship between employment during college and performance in school. School performance has been measured by grades, or by persistence. With regard to grades, the available research does not give any consistent indication that working students perform either better or worse than non-working students. An inherent problem in using grades as a measure of performance is that grading standards vary among institutions. Analyzing samples of students from many institutions, therefore, can give only a fuzzy reading of the relationship between employment and grades. Ehrenberg and Sherman[85] analyzed data from the National Longitudinal Study of the High School Class of 1972 (NLS72) and found no consistent and significant relationship between hours of work and grade point averages. Augenblick, Van de Water and Associates[86] analyzed a Washington State sample and found a positive correlation that was statistically significant but very small. If colleges with tougher grading standards have lower proportions of students working — a plausible but untested supposition — then this could account for a positive correlation between employment and grades among students from different institutions.

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[82] To test whether employment during college improves subsequent prospects in the labor market requires longitudinal data, preferably extending far enough to determine whether any effect exists in the long run. The test should control for characteristics such as family background, ability, and ambition, which might affect both the amount of employment during college and subsequent success in the labor market. Unfortunately, none of the existing research completely satisfies these criteria.

[83] Stanley P. Stephenson Jr., *In School Labour Force Status and Post-school Wage Rates of Young Men*, Chapman and Hall, Ltd, 1981; "Work in College and Subsequent Wage Rates," *Research in Higher Education*,17 (1982):165-178.

[84] Gee San, "The Early Labor Force Experience of College Students and Their Post-college Success," *Economic of Education Review*, 5 (1986):65-76. Two limitations of this research should be noted. One is that the NLS did not follow this cohort of young men long enough to determine whether the earnings advantage persisted, or was reversed. It is conceivable that employed college students obtain a temporary advantage after they graduate by continuing to work for the same employers, but that, in so doing, they curtail their chances for upward mobility in the long run. This has not been tested. A second limitation of existing studies is that they do not account for the possibility that employment during college might affect whether some students finish their programs. That is, Stephenson and San treat educational attainment as exogenous, and estimate the effects of employment during college on subsequent earnings for young men with a given level of educational attainment. If employment during college does affect the probability of completion, then some of the effect of employment during college on subsequent earnings is actually included in the effect of educational attainment on earnings. No one has yet published a complete model of these relationships.

[85] Ronald Ehrenberg and Daniel Sherman, "Employment While in College, Academic Achievement, and Postcollege Outcomes; a Summary of Results," *Journal of Human Resources*, 22(1987):1-23.

Restricting the analysis of grades to single institutions avoids some of the problem arising from different grading standards (though such differences may still exist among departments or even individual courses), but creates the problem of smaller samples. Three studies on individual campuses have given mixed results. Hammes and Haller[87] found working students had higher grades than non-workers. Bella and Huba[88] discovered no significant correlation between working and grades. Hay et al.[89] found that men who worked 16 or more hours per week had lower grades, but they also found that men whose jobs were related to their major fields of study obtained significantly higher grades than men in jobs unrelated to their majors. Augenblick, Van de Water and Associates discovered that students in the Washington State Work Study program, which requires that students' jobs be related to their academic majors or career area of interest, had higher grades than students in the federal CWS program, which does not enforce this requirement.

Persistence in school, unlike grades, has the same meaning in different places.[90] Ehrenberg and Sherman's analysis of national data (NLS72) found that students in their first two years of college, whether at two-year or four-year institutions, were more likely to drop out the more they worked. They also found a striking asymmetry between students who worked on-campus as opposed to off-campus: hours of employment in off-campus jobs were negatively associated with persistence, but students who spent more hours working on campus were more likely to persist through graduation, and also to enter graduate school. This is consistent with earlier observations by Astin.[91]

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[86] Augenblick, Van De Water and Associates, *Working While Studying: Does It Matter? An Examination of the Washington Work-Study Program* (Denver: AVA Education Policy/Planning Services, 1987).

[87] Judith Hammes and Emil Haller, "Making Ends Meet: Some of the Consequences of Part-time Work for College Students," *Journal of College Student Personnel*, 1983:529-535.

[88] Surjit K. Bella and Mary E. Huba, "Student Part-time Jobs: the Relationship between Type of Job and Academic Performance," *Journal of Student Financial Aid*, 12(1982):22-27.

[89] John E. Hay, Keith Evans, and Carl A. Lindsay, "Student Part-time Jobs: Relevant or Nonrelevant," *Vocational Guidance Quarterly*, 1970:113-118.

[90] Although some institutions do make greater efforts than others to prevent students from dropping out, and this may affect the analysis of employment effects if institutions with higher dropout rates also have larger (or smaller) proportions of students employed, it still seems more valid to use samples of students from different colleges if the measure of academic performance is persistence rather than grades.

[91] Alexander W. Astin, *Preventing Students from Dropping Out* (San Francisco: Jossey-Bass, 1975).

Other studies which have found a negative correlation between paid employment and academic progress, when other characteristics of students are statistically controlled, are those by Kohen et al.,[92] and Augenblick, Van de Water and Associates. Kohen et al. found a negative relationship among freshmen and sophomores but not among juniors or seniors. Augenblick, Van de Water and Associates discovered a negative relationship between the number of hours worked and number of course credits completed in the current term. On the other hand, Carroll and Chan-Kopka's[93] bivariate analysis of data from the 1980 seniors in the High School and Beyond (HSB) survey shows that, in most years, students who worked during the academic year were more likely to stay in school than students who worked only during the summer or who did not work at all. However, this last finding might result from more able students being both more likely to work and more likely to stay in school; some statistical control for ability and other background factors is necessary.

To sum up, four tentative conclusions emerge from the partial analyses that have been done so far. First, students who work during college earn more money in the first few years after graduation. Second, students who work do not get lower grades than non-workers. Third, students who work are more likely to drop out, or take longer to complete their programs. Fourth, on-campus jobs increase persistence, while off-campus jobs increase the likelihood of dropping out, implying that working has a more positive correlation with performance in school when the job is more closely related to schooling.

Evaluation of Federal Policy Options

The research reviewed above supports the commonsense view that paid employment has more positive effects on students' performance in school if the jobs are more closely linked to school. Existing federal law contains two mechanisms for facilitating job placements related to students' coursework. One is institutional support for development and operation of co-op programs. The other includes wage subsidies through CWS and TJTC. How might these mechanisms be used to strengthen the connection between jobs and studies?

First of all, TJTC probably should not be the major policy instrument for this purpose, as explained above. The effectiveness of the tax credit mechanisms in increasing employment and training is uncertain at best. A tax credit is also an awkward way of of promoting a carefully-specified federal goal, like connecting employment to schooling, because tax credits have to be carefully constrained to achieve such goals. Not only are such constrained credits difficult to enforce, they are also unpopular with employers. Furthermore, the number of co-op students supported by TJTC has dwindled to a handful, and it is uncertain how long TJTC will exist; Congressional ambivalence about it has already resulted in one funding hiatus and several curtailments during the program's 10-year history. Given the existence of an established wage-subsidy program especially for students — i.e., CWS — it appears wiser to build on that instead of TJTC.

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[92] Andrew Kohen, Gilbert Nestel, and Constantine Karmas, "Factors Affecting Individual Persistence Rates in Undergraduate College Programs," *American Educational Research Journal* 15 (1978):233-251.

[93] C. Dennis Carroll and Teresita L. Chan-Kopka, *College Student Who Work: 1980-1984 Analysis Findings from High School and Beyond* (Washington, D.C.: National Center for Education Statistics, 1988).

Federal policy with regard to CWS might be used to strengthen PSVE by creating mechanisms to ensure that work is more closely related to jobs held by PSVE students. To make this feasible, it might be necessary to extend the range of jobs that qualify for CWS to include profit-seeking employers. As of 1985, 17 states were funding work programs for students as of 1985, with 1984-85 appropriations ranging up to more than $5 million in several states; another 15 states had plans for such programs.[94] Five of the 17 states with their own work-study programs in 1985 allowed subsidies for jobs with profit-seeking employers, and at least one more state, California, has joined the list since 1985. Since work-study subsidies in several other states are restricted to supplementing federal CWS awards, changing federal policy to include for-profit employers could have a substantial multiplier effect in enlarging the number of possible work-study jobs.

Making for-profit employers eligible under CWS would shift benefits away from the non-profit employers (including colleges themselves), which currently receive these benefits (assuming no increase in overall size of the CWS program). This shift might not be warranted, or politically feasible, for all CWS students. The case for enlarging the pool of eligible employers pertains mainly to PSVE students, many of whom seek careers in the private sector, and would benefit from work experience linked to their studies. One possibility, therefore, would be to permit employment in profit-seeking firms for students in vocational fields.

Simply enlarging the pool of eligible employers will not ensure that students' CWS jobs are related to their coursework. For PSVE students, federal policy would have to describe characteristics of work-study arrangements that increase the likely "relatedness" of jobs and coursework. One obvious criterion is that the job should be in the same field as the student's tentative career choice. Another is that there be some kind of communication between job supervisors and classroom instructors, through written agreements about what students are expected to do. It is also desirable that the job not be created specifically for a work-study student, i.e., that someone else would have been hired if the student had not been available.

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[94] Pamela Christoffel, *Working Your Way through College: a New Look at an Old Idea* (New York: College Entrance Examination Board, 1985).

These criteria are among those that have been used to define cooperative education.[95] In other words, making CWS jobs more related to students' coursework means making CWS more like co-op. One direct approach would be to permit placements with profit-seeking employers to be subsidized by CWS, *provided* that a student receiving subsidy is enrolled in a vocational program, the job is in the same field as that program, a classroom teacher or co-op coordinator has written objectives for the student on the job, and the job supervisor has some responsibility for reporting to the school about the student's performance. Opening up private-sector placements with these provisos would presumably expand the number of co-op jobs available to PSVE students. In effect, CWS would now be financing co-op for PSVE students, and some increase in total authorization for CWS would probably be necessary.

If CWS is not extended to profit-seeking employers, federal rules might still be tightened so that CWS students in fields such as health or office occupations, who can find related jobs with non-profit employers, are treated more like co-op students. The provisos stated in the last paragraph could be written into CWS law or regulations, to apply to vocational students in these fields. As an incentive, a modest amount of additional institutional support could be provided, so that financial aid offices could hire the staff needed to comply. Many colleges employ co-op coordinators, some of whose time could be assigned to financial aid offices to help strengthen the connection between CWS jobs and school work for vocational students.

Option 7: Improving the Preparation of Teachers in Postsecondary Vocational Education

The policies discussed so far as examples of program improvement are designed to operate by redirecting the priorities and approaches of institutions engaged in PSVE, but they neglect any potential problems with the teacher force. However, as has become clear recently in reforms at the K-12 level, efforts to reform schooling which ignore teachers may be counterproductive, because teachers can undermine reforms or may simply lack the capacity to comply with reform efforts. In addition, reforms that require certain types of teachers, or teachers with particular training, may founder if there is a shortage of such teachers. Thus federal efforts to develop a coherent policy for postsecondary vocational education, including efforts to improve the quality of programs, may need to consider the preparation of teachers in PSVE.

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[95] *Cooperative Education in Two-year Colleges, Final Report* (Ithaca, NY: Cornell Institute for Occupational Education, 1980).

In economic terms, policies to improve preparation of teachers in postsecondary vocational education are directed at the supply side of the factor market — teachers being the main factor in producing the PSVE services. Potentially, these policies might complement federal actions aimed at directly influencing demand for, and supply of, PSVE services themselves, through financial aid to students (demand) or colleges (supply). Here we describe briefly what is known and not known about the preparation of postsecondary vocational instructors, and sketch the main policy options.

Over 300 colleges and universities conduct undergraduate and graduate degree programs in vocational teacher education. While there is considerable discussion in the literature related to vocational teacher education in general and the issues said to be facing it, there is virtually no comprehensive data on who enrolls in postsecondary and postsecondary vocational teacher programs at these various institutions.

Several research reports suggest why no definitive statements can be made. First, there are few national data bases presently developed which include any type of information related to vocational teacher education programs in general or postsecondary training in particular. Ashburn notes that the federal government has developed several teacher education data bases.[96] It is difficult, however, to gain access to them or to any planned or envisioned future research program agendas. Few so far include vocational teacher education. An exception is the National Education Longitudinal Survey of 1988 currently being conducted. A future possibility may be the work of the American Association of Colleges for Teacher Education (AACTE), which has recently collected comprehensive data related to secondary teacher education and plans similar survey of elementary education during 1988-1989. Unfortunately, vocational education has not been included or broken out in any of these studies. In addition, there appear to be no projections or commentary on the need for or supply of vocational education teachers at the postsecondary level.[97]

A second aspect of the problem is that postsecondary teacher education is intimately tied to certification requirements and no two states are alike in this regard. Milanovitch, in a phone survey of all fifty states, found that "basically, each state's program is so different from the other state's that...frequently there were exceptions to each question asked. This situation precluded the development of standardized comparisons".[98] She was able to describe four basic structures of governing boards/agencies overseeing vocational-technical certification, but concluded that there was no consistency between the states in regard to their standards for quality or in the way in which they administered their programs.

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[96] E.A. Ashburn, "Critical Issues about Teachers: A Description of OERI-funded Research from the User's Perspective." Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA, 1988.

[97] Richard L. Lynch, "Influencing Vocational Teacher Education Policy through Research" (Virginia: Virginia Polytechnic Institute and State University, Division of Vocational and Technical Education, 1988). Unpublished writings from work in progress.

Preparation of Postsecondary Vocational Teachers in Various States

The literature contains some documentation of certification and training procedures in individual states. There are many routes to completing requirements for credentials: (1) Candidates can complete a baccalaureate program and graduate work which includes credential requirements, as well as accrue clock hours of related work experience. (2) They may qualify by having a combination of an undergraduate or advanced degree, required coursework (non-degree based), plus work experience. (3) They may secure technical training, recent work experience in industry, plus a number of hours of teacher education coursework and practice teaching. (4) In several states, some credentialling is done on an individual basis, and is only loosely related to any of the prior routes. In some cases, candidates can apply directly through a credentialling agency circumventing any college program and instead selecting coursework at a number of colleges to meet their needs.

Milanovitch points out that a simila[illegible] among all credentialling routes for secondary and postsecondary candidates is the emphasis on work experience. Differences occur whether or not certification is required to be qualified to teach. Secondary, full-time instructors in all states must be certificated, as is the case with almost all secondary part-time instructors. The situation, however, is not as clear for postsecondary instructors. Sixty percent of the states now mandate that their full-time, postsecondary instructors earn certification, but only 73 percent require that their part-time staff be certificated. Milanovitch reports that "Applying rigid certification standards when part-time instructors were involved was viewed as a detriment to hiring experts from the field. The trend however, seems to be in the direction of requiring credentials for part-time instructors. In almost all cases this means that they must fulfill the same requirements as full-time personnel".

In California, a recent law will allow local community colleges greater flexibility in developing their own peer review and credentialling processes. Faculty will be required to meet minimum qualifications adopted by the Board of Governors or obtain a locally granted waiver.[99]

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[98] Norma J. Milanovich, "Vocational Technical Teacher Certification — Where Are We? Where Are We Going"? in *Achieving Excellence in Vocational Teacher Education: A Compendium of Five State-of-the-Art Papers.* Coordinating Committee on Research in Vocational Education, Office of Vocational and Adult Education, U. S. Department of Education, 1986, p. 9.

[99] California Education Code sections 87356-87359.

On the other hand, a number of states are in the process of developing more centralized statewide systems for vocational teacher education.[100] In states such as Florida, universities are specialized in vocational teaching areas. In addition, Florida's state agency makes federal funds available to larger community college districts. The money may be used for their own staff development or for working with larger school districts not served by a major university. Minnesota's four universities offer typical university teacher education programs and are funded by the state educational agency to provide in-service training to local vocational educators. Each university is responsible for one of four sections of the state on a contractual basis. North Carolina, in addition to providing university based teacher pre-service programs, at some universities also provides workshops for non-degreed teachers. Ohio has developed a plan for personnel development which will be centered around five comprehensive regional centers providing services to non-degreed teachers (both an initial workshop and two years of follow-up), in-service programs for teachers in pedagogy as well as technical research, and teacher testing. Pre-service baccalaureate programs are handled separately at nine universities, most of which do not have comprehensive programs. In Oklahoma, two universities receive federal money through a state educational agency. The monies are stipulated for excess costs of training vocational teachers. Emphasis is placed on assistance to non-degreed teachers entering the teaching field and coverage of excess costs of teacher education programs at the two universities. Pennsylvania has four centers for vocational professional development, each located at a university. Services provided include programs for non-degreed personnel (entry phase and one-year follow-up), competency assessment for new teachers, credit courses for advanced certification, pedagogical workshops and seminars for teachers (both degree and non-degree).

Parks and Henderson reported that localization of services, as reported for some states above, did not appear to be a priority among state systems. In-service programs and pre-service non-degreed programs, they concluded, need to be near the teacher. Without these, teachers tend to meet certification update requirements through inappropriate course selection.

Milanovitch reports that some states are combining secondary and postsecondary teachers when delivering the instruction. She noted mixed reactions to this. "At a time of diminishing enrollment and the demand for greater student credit hour production, some institutions of higher education justify the combined enrollments at the expense (sometimes) of the populations served. Other institutions are developing outreach programs around their states, counseling course sections, experimenting with alternative approaches to instruction, or even attempting various innovative media and telecommunications approaches, if the equipment systems are in place" (p. 18).

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[100] D.L. Parks and G.H. Henderson, "Statewide Systems of Vocational Teacher Education to Meet the Challenges of Changing Technology," in *Achieving Excellence in Vocational Teacher Education: A Compendium of Five State-of-the-Art Papers.* Coordinating Committee on Research in Vocational Education (ED), Washington, D.C., Office of Vocational and Adult Education, 1986.

In terms of curriculum, all 50 states acknowledged some performance or competency-based program involvement. A "new" trend that appears to be emerging across the country is the use of mentors or master teachers in an apprenticeship program for new instructors. This is viewed as especially helpful in assisting part-time instructors and in working with teachers in rural areas of states. And finally, many postsecondary programs are presently adopting the same or similar competency testing procedures as those in operation for the elementary and secondary programs.

Federal Policy Options

In addition to the diversity of state systems, other current conditions would affect the outcome of federal actions. First, enrollments in vocational teacher education programs are declining, and recruitment in the future may be more difficult.[101] Second, a substantial part of vocational education is no longer governed by baccalaureate requirements. Many candidates are recruited from business and industry on the basis of practical expertise. In this case the teacher education program is responsible for pedagogical skills and professional nurturing. This approach to teacher education requires an intensity and personalization that is uncharacteristic of standard teacher education patterns and will continue to need supplemental funding if institutions are to fulfill such a role.[102] Third, a critical need to update postsecondary instructors in research and technology is frequently asserted.[103] Vocational teachers work in a dynamic arena of rapid technological change, and require regular and frequent updating if they are to stay current in their occupational specialties.[104]

Traditionally, federal resources have supported preparation of teachers through pre-service or in-service education, or through curriculum development projects, which have sometimes been tied to pre-service and in-service programs. Special federal scholarships have been made available from time to time as incentives for individuals to pursue certain courses of study. This could obviously be done to attract qualified people into teaching certain postsecondary vocational subjects. In-service programs for current instructors could also be provided, to upgrade and update their knowledge in critical areas. In-service programs for teachers have been sponsored over the years by a number of federal agencies, including the National Science Foundation and the Department of Education itself. Federally funded curriculum projects have been disseminated through staff development for incumbent teachers. This, too, could be done in PSVE.

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[101] M.E. Feldman and R.L. Fisher, "The Quality of Our Students and Teacher Education Recruitment Programs." Paper presented at the annual meeting of the Association of Teacher Educators, Atlanta, GA, 1986.

[102] *Op. cit.*, Parks and Henderson, p. 6.

[103] J.B. Hamilton, P. Kurth, and H. Marz, *Ohio Vocational Educational Linkages* (Columbus, Ohio: National Center for Research in Vocational Education, 1985).

[104] Parks and Henderson, "Statewide Systems." Jack McElroy,"Structured Employment Experiences for Technological Updating of Vocational-Technical Teachers" in *Achieving Excellence in Vocational Teacher Education: A Compendium of Five State-of-the-Art Papers.* Coordinating Committee on Research in Vocational Education (ED), Washington, D.C., Office of Vocational and Adult Education, 1986.

However, the absence of any comprehensive data on what current and incoming PSVE instructors know — or even how many there are in various fields and whether the supply of new recruits is likely to satisfy the demand now and in the near future — makes it difficult to evaluate any of these possible actions. Studies currently under way at the National Center for Research in Vocational Education at Berkeley will begin to fill the information void. Until some baseline data becomes available, developing a federal policy for PSVE teachers would be shooting in the dark.

Option 8: Retraining Adult Workers and Displaced Workers

One particular group of students that poses special challenges to PSVE includes adult workers in need of retraining, including displaced workers. While they could be included along with other special needs groups, they are different in several ways. First, these individuals have typically had considerable experience in the labor force; they do not need job experience or job readiness, nor in most cases do they need basic skills training. In addition, most of them have substantial amounts of education: of workers displaced between 1981 and 1986, over three-quarters — 77.5 percent— had a high school diploma or more; 18.6 percent had some college, and 12.9 percent had four years of college or more.[105] This population is not, therefore, as disadvantaged as other groups that have gotten special attention, like clients of JTPA and workfare programs. Typically, displaced workers have been laid off as the result of a firm closing or leaving the area, so that the conditions of their unemployment are not of their own making; in other words, they are not incompetent or derelict employees. In many ways, then, displaced workers may have fewer training needs than new workers without any prior experience in the labor market.

There are several justifications for federal support of displaced workers. One is the redistributive argument: Displaced workers are more likely to have lower incomes, partly because of unemployment; in January 1986 21 percent of all displaced workers were unemployed, compared to a national unemployment rate of 7.0 percent during all of 1986. Another justification involves the capacity of states to cope with dislocated workers on their own: those states with the greatest numbers of displaced workers are those which are most seriously affected by plant closings and slack demand; the economies of these states are likely to be weak, and their tax bases are affected by the same forces that have caused displaced workers. These states are therefore unlikely to be able to fund extensive programs to retrain dislocated workers.

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[105] *Displaced Workers 1981-1985*, U.S. Department of Labor, Bureau of Labor Statistics, Bulletin 2289, September 1987.

Dislocated workers are currently eligible for support for various federal programs. The most important is probably the Unemployment Insurance system, providing income support for those laid off. In addition, displaced workers can turn to community colleges and technical institutes for retraining, supported by state subsidies to these institutions, Perkins funds (if any), and student aid through loans and grants. (The evidence presented above indicates that older students are not much less likely than younger students to receive federal aid, suggesting relatively equitable access to aid.) Finally, JTPA has supported dislocated worker programs under Title II, which provided $213 million in funding during 1988. The Omnibus Trade Bill, passed in 1988, revised these dislocated worker programs under the Economic Dislocation and Worker Adjustment Assistance Act, and authorized $980 million in federal expenditures for 1989, considerably in excess of the amounts previously available under Title II of JTPA (and in excess of the entire amount available under the Perkins Act). The Omnibus Trade Act also amends the Perkins Act, authorizing $50 million in funds for adult training and retraining — an increase from the amount of $35 million authorized by the Perkins Act — and requires that states receiving funds for vocational education plan methods of coordinating their vocational programs with dislocated worker programs established under JTPA. So far there have been no appropriations for the new provisions of the Omnibus Trade Bill, but this legislation does establish the federal government's principal policy for the training of dislocated workers.

Currently, then, there are several sources of federal funds available to dislocated workers, and both student aid and institutional funding appear to support older individuals at least proportionate to other groups. In addition, given the funds authorized (if not yet appropriated) under the Economic Dislocation and Worker Adjustment Assistance Act, it isn't clear that any purpose would be served by including additional funds specifically for dislocated workers in federal legislation for PSVE. Unless the sums authorized in subsequent federal legislation for vocational education were increased substantially over current authorizations, the amount of $980 million now authorized is far in excess of anything that could be envisioned in a federal bill for PSVE.

The only federal purpose that might be served is to assure the coordination of vocational education with JTPA programs for dislocated workers, and to develop model efforts of coordination. But here too there seems to be little left to be done. Postsecondary institutions can already receive funds under the JTPA 8 percent set-aside, designed to promote the coordination of vocational education and JTPA, and could use these funds for dislocated worker projects. Any demonstration projects established to develop model efforts of articulation with other institutions, described under Option 5 above, could include model efforts to develop dislocated worker programs. Finally, the new Omnibus Trade Bill requires that new dislocated workers programs be coordinated with vocational education. It appears, therefore, that any federal policy for postsecondary vocational education need not articulate any specific provisions related to dislocated workers, since federal policy in this area seems to be well-established — if not yet well-funded.

Option 9: Federal Support for Training for New Technologies

One common proposal is that the federal government should support education and training related to new and emerging technologies. This option is usually articulated as part of an overall national strategy of economic development that would replace declining employment in traditional manufacturing sectors and low-productivity service sectors with high-productivity employment in high-tech occupations, and would replace conventional manufacturing methods with high-tech methods. This approach is linked both to the enhancement of exports and the reduction of imports, and might therefore lead to economic development.[106] Within the area of vocational education, this approach suggests that the federal government should support the technical training necessary to new technologies, and should also finance the acquisition of equipment and the retraining of instructors so that instructional methods and equipment can be up-to-date.

It is not clear why the federal government should support one sector, or one group of occupations, over others. Why should federal PSVE policy support technical instruction but not more traditional programs in business, the trades, personal services, education, or public services like police and fire protection? The idea that the federal government ought to be in the process of "picking winners" and supporting their development (including their education and training) — in essence, hastening the process by which some sectors decline and others develop — has been widely discredited. On practical grounds, neither the government nor anyone else knows how to "pick winners" reliably; and more substantively, a fully functioning economy needs to include all sectors and not exclude some which seem to be lagging but which may be crucial to the emergence of others. Furthermore, if high-technology sectors and occupations are as dynamic as some have suggested, then it isn't clear why states do not fund them adequately, and why there is any role for the federal government to play. In fact, within PSVE enrollments in high-tech areas increased quite dramatically during the 1970s and early 1980s, without any special intervention.[107]

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[106] Of the many models of economic development, two of the most important are export enhancement and import substitution. The effectiveness of both these methods can be explained by a simple Keynesian model of an open economy where $Y = C + I + G + X - M$, and increases in exports X and decreases in imports M increase Y, which represents income or GNP.

[107] W. Norton Grubb, "The Bandwagon Once More," documents the increase in degrees received in high-tech fields.

However, there are at least two possible justifications for federal intervention in specific occupational areas. One would be motivated by a coherent policy to promote economic growth. If it were possible to articulate a federal growth policy, then it might be justifiable to support those sectors and occupations contributing to that strategy (but not other sectors and occupations). Because this policy would benefit the nation as a whole, no individual state could be expected to support such a policy. For example, a coherent policy would be one to increase exports, and another would be one to foster import substitution in specific areas (e.g., steel, automobiles, or consumer electronics goods). Then vocational education and skills training related to sectors that could reasonably increase exports or substitute for imports would be justified, but support of many other occupations — including all those related to wholesale and retail trade, to the health sector, to much of the service sector (especially personal services like cosmetology) that cannot possibly export its services, to those aspects of construction which are not threatened with competition from foreign construction companies, and to public sector employment like education, police and fire protection, and child care — would not be eligible for support. This kind of policy might support training for high-tech occupations in some sectors — electronics, for example — but not those working in sectors that would not enhance exports or reduce imports, like health technicians. Furthermore, this policy would justify federal intervention in skills upgrading for a variety of occupations in export-oriented sectors, whether or not they were related to new technologies; thus improving the capacities of welders in the automobile industry might be justifiable, though not the training of welders for construction.

Even to outline such a justification for federal support of certain occupations is to clarify how difficult it would be to implement. First it would be necessary to articulate a coherent growth policy; then it would be necessary to designate sectors and occupations that contribute to that policy, and rigorously exclude others from special consideration. Quite apart from the political battles that would be involved in such a process, and the likely resistance in this country to a process that sounds like national planning, the process of designating which sectors are most likely to contribute to exports or to reduce our reliance on imports would be similar to the process of picking "winners" and "losers," and would require both considerable judgement and an ability to forecast that no one now has.

Finally, such an approach poses special problems for an education and training policy: even if it were possible to choose *sectors* that would contribute to economic growth, a federal PSVE policy would have to select *occupations* for special support. But typically, people trained in one occupation work in many sectors, and might be as likely to enter sectors irrelevant to economic growth as those enhancing growth. Thus this justification for supporting certain training programs to the exclusion of others seems unworkable. A better approach would be simply to assure that

PSVE is responsive to labor market conditions so that if it becomes possible to enhance the demand for workers in a particular sector, then the PSVE system can respond.

A rather different justification for federal intervention in some occupations involves uncertainty. If individuals are risk-averse, then they will prefer risk-free situations to risky ones, all other factors being equal. In the world of education and training, if demand for a particular occupation is uncertain because future demand for a particular product is unclear or the technical direction of production is unknown, then PSVE institutions may be reluctant to provide that training and students may be reluctant to enter any programs that do exist. Similarly, if the usefulness of a particular piece of equipment used in training is uncertain because production methods might be changing, then institutions may be reluctant to invest in such expensive equipment, and training will be out of date. In these cases federal intervention may be justified to offset the consequences of uncertainty, either by lowering the costs of training to students (if the problems is insufficient enrollment), or by subsidizing the costs of operating the programs (including equipment costs and the costs of training instructors) if the problem is that PSVE institutions are reluctant to provide programs.

There is little evidence that students are reluctant to enter certain emerging occupations because of uncertainty of demand, however, and the costs to students of such programs are already heavily subsidized by state and local governments through low tuition and by the federal government through student aid. The provision of new programs in PSVE may be a more serious problem, however, particularly where expensive and rapidly-changing equipment is involved and instructors are in short supply: both of these are subjects of constant complaint in PSVE, and the use of program improvement funds from the Perkins Act for equipment suggests that equipment shortages are real.

Two options for federal PSVE policy, then, are the following:

(1) Subsidizing equipment costs for high-technology programs, through grants to states earmarked for certain kinds of equipment. The grants could be matching grants with state or local funds required, since the problem of uncertainty presumably operates to reduce (rather than to eliminate) state and local funding for such equipment, and therefore some state and local contributions could be expected.

(2) Subsidizing the costs of retraining vocational instructors in fields that are changing rapidly, again with matching grants earmarked for certain kinds of in-service programs — for example, programs that return instructors to firms to learn about technical changes on the job.

Another way in which community and technical institutes now cope with the uncertainty of rapidly-changing occupations is to establish customized training programs and other forms of partnerships with firms. These partnerships sometimes involved donation or sharing of expensive equipment, and sometimes employees knowledgeable about current production processes, from firms to educational institutions. At their best, these programs can integrate firm-specific training with more general and "academic" education, in which firms and PSVE institutions can share the costs of training; they can serve to keep vocational instructors up to date in current production methods as well as providing state-of-the-art equipment to PSVE. Thus an alternative response to uncertainty about rapidly changing technologies would be for federal policy to promote partnerships between firms and PSVE institutions, since this approach might be the most effective and economical way of linking these institutions to the best sources of information about changing production. There are two obvious ways of promoting such partnerships, one by funding PSVE institutions and the other by supporting the efforts of firms:

(3) Earmarking federal funds to be used by PSVE institutions to establish customized training or other partnerships in areas of new technologies with the specific intention of keeping these institutions up to date with changes in workplaces. The kinds of partnerships supported would have to be carefully delineated, since along with the potential contributions of such arrangements there are some potentially serious drawbacks. In particular, customized training is often used to lure employment from one state to another, which should be supported by federal policy only in special cases; such programs may involve public subsidy of training costs that ought to be privately supported. Customized training may have adverse effects on minorities, women, and other groups discriminated against in labor markets if firms are allowed to choose the trainees; and partnerships with firms have the potential for making vocational education overly-specific, rather than providing students with the skills they will need for a lifetime of employment. Thus any policy to stimulate partnerships in areas of developing technologies would have to limit the kinds of programs that could qualify for federal funding.

(4) Providing subsidies to firms that participate in partnerships with PSVE institutions, either directly or through a corporate income tax credit. Compared to the previous option of funding PSVE institutions, this approach would give more discretion to firms to specify the kinds of partnerships they prefer. Given the potential dangers of customized training programs, any subsidies to firms would have to be carefully circumscribed to avoid supporting inappropriate types of programs — just as funding to PSVE institutions would have to be circumscribed. The experience with highly targeted tax credits in the Targeted Jobs Tax Credit has not been especially good, however, in part because firms seem to dislike highly constrained tax credits; by and large, such credits end up supporting employment that firms would have undertaken without the credit, rather than stimulating new employment. The applicability of the TJTC experience to any new credit is unclear, of course; but the information available suggests that a corporate tax mechanism to subsidize partnerships with PSVE might not be as effective as providing funding to the institutions themselves.

IV. IMPLICATIONS FOR THE DIVISION OF FEDERAL FUNDS

It makes no sense to articulate a federal policy in the area of postsecondary vocational education, and then to provide no funding to support that policy. Therefore the very idea of developing a federal policy specific to the postsecondary level requires some vision of how federal funds would be directed to postsecondary institutions.

Currently, the Perkins Act allows each state to determine the allocation of federal funds to the secondary and the postsecondary levels. This state-level decision results in considerable variation from state to state in the amounts of federal funds available for postsecondary institutions,[108] as was described in Section I above, as well as considerable friction and hostility between secondary and postsecondary institutions over the division of federal funds.

One option for federal policy would be to continue this mechanism, on the grounds that states are in better positions than the federal government to decide where vocational education funds should be spent. However, in many states this would leave postsecondary vocational education with trifling amounts of federal funds, undermining the purpose of articulating a federal policy in the postsecondary area. It therefore becomes necessary to raise one of the most contentious issues in vocational education: how the division of federal funds between the secondary and the postsecondary levels might be revised.

There are several alternatives for providing federal funding to support a federal postsecondary policy. One would be for Congress to specify a specific fraction of total federal funds in each state which must be allocated to postsecondary vocational education in each state — e.g., 40 percent, 50 percent, or some other fraction. Another option is to specify a *minimum* fraction that must be allocated to PSVE; this would allow those states which are already spending the bulk of their Perkins funds on postsecondary programs to continue doing so, while assuring that states now spending very little for PSVE would increase resources to the postsecondary levels.

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[108] This is an issue of inter-state equity in the availability of funds for PSVE. There is another issue of inter-state equity that has been raised by Steven Barro: the formula for distributing Perkins funds provides higher weights for the population age 15-19 than for older groups likely to be enrolled in PSVE. However, it isn't clear that a lower weight for this population group is appropriate, since it is so difficult to estimate the relative numbers of students in vocational education by age; and in any event small differences in these weights would make very little difference to the distribution of vocational funds. Thus it makes little sense to worry unduly about these weights. The more fundamental changes in the methods of allocating federal funds presented in this section — particularly fixing a floor for the amount allocated to postsecondary students, devising a separate bill for PSVE, or allocating federal funds to the secondary and postsecondary levels according to some student count — would be other ways of taking care of inter-state inequities.

A third option would be to draft separate legislation for secondary and postsecondary vocational education, with separate authorizations for the two levels. This would allow Congress to specify the division of funds between the secondary and the postsecondary levels. It would also allow for a different formula to be used to distribute federal funds among the states — a possibility that would enhance interstate equity because it would allow funds to be distributed according to a formula that could direct funds to states with larger numbers of students in PSVE. Finally, , this approach would get away from the problem of designating a single state agency, and allow states to designate a separate state agency in charge of postsecondary vocational education. Since PSVE programs in many states have found it difficult to work with the K-12 state boards of education that are most commonly the state vocational education boards, this approach would resolve not only the division of funding but also the conflicts about definitions, purpose, mission, and "turf" that have plagued the Perkins Act.

Still another option would be for federal legislation to allocate funds between the secondary and the postsecondary levels according to some measure of students enrolled. Under this plan, federal funds would follow students, so that states with larger enrollments at the postsecondary level compared to the secondary level would be forced to allocate more federal funds to PSVE. This option has the advantage of allowing Congress to avoid the politically difficult decision of decreeing a specified division between the secondary and the postsecondary levels. Instead, the division would be made by the natural and appropriate criterion of allowing federal funds to follow students.

However, this option generates several technical and administrative problems. First, it would be necessary to define how secondary and postsecondary students are to be counted, in a way that would be comparable for both levels. Since almost all secondary students (and many students in community colleges) take some vocational coursework, it is inappropriate to count as vocational students all those who are enrolled in at least one vocational course. Therefore it becomes necessary to shift from student counts to counts of vocational course enrollments, contact hours, or credits earned. Alternatively, funds could be allocated on the basis of counts of full-time equivalent vocational instructors, or on the basis of state and local revenue contributions to secondary and postsecondary vocational education. From a theoretical perspective, each of these approaches would have slightly different distributional consequences, and would establish different incentives for secondary and postsecondary programs. For example, using course counts as a way to allocate funds might lead some institutions to devise a series of short courses rather than longer courses, and allocating funds by credit counts might lead institutions to inflate the credits offered per student; allocating funds by students always lead to effort to inflate enrollments and penalizes programs that need to have high instructor/student ratios, while allocating funds according to the numbers of instructors provides some incentive to increase instructor/student ratios.

A second technical problem is that most states do not currently collect data on secondary and postsecondary students, courses, teachers, or expenditures in ways that could be used to allocate federal funds. Therefore, any formula to allocate federal funds would force states to adopt new data systems. Without federal funding specifically for this purpose, states would almost certainly object to such a requirement, and carry it out only reluctantly and inaccurately. One option, given this difficulty, is to allow states to devise the method of allocation, as long as it conforms to some measure of the relative size of secondary and postsecondary vocational education and is subject to federal approval. This would at least allow states to devise an allocation formula that is most consistent with their existing data systems and easiest to implement, given the nature of secondary and postsecondary institutions in the state.

In thinking about the division of federal funds between the secondary and postsecondary levels, it is important to distinguish between postsecondary *institutions* and postsecondary *students*. The differences between the AACJC figures about federal spending for PSVE and the NAVE figures, reviewed in Section I above, seem to reflect the fact that many area vocational schools, which in some states are organized as part of the secondary education system, provide vocational programs to high school graduates and adults. If the division of funding were to be made through a formula which counts students, faculty, or revenues at the secondary and postsecondary level, then this distinction would pose no special problem: federal funds would follow vocational education into whatever institutions provide such programs. However, if Congress were to specify the division, or specify a minimum fraction for PSVE, then it would be necessary to decide whether the postsecondary allocation includes only community colleges and postsecondary technical institutes, or whether it includes all postsecondary students. If the intent in establishing a federal policy for PSVE is to support vocational programs for individuals beyond their high school years, rather than supporting particular types of institutions, then the latter approach — counting all postsecondary *students* as eligible for federal postsecondary funds — would be the appropriate decision.[109]

Two final options should be mentioned, for completeness if not as a reflection of political reality: the option of allocating all federal funds for vocational education to the postsecondary level. The argument for this position is that secondary education should be reserved for general and academic coursework rather than specific skill training, which should take place in postsecondary education for reasons including the economies of scale possible in postsecondary institutions; the greater flexibility of these institutions and their closer connections to employers; the greater sophistication possible within postsecondary courses, once students have mastered the academic prerequisites; and the fact that secondary students are, because of their age, very often denied access to "adult" jobs where they can use vocational skills. If all federal funds were allocated to PSVE, some federal support would still find its way into high schools as postsecondary institutions established 2+2 programs, supported career education and exploration within high schools, and developed other forms of articulation with high schools. Still, the obvious effect of such a policy would be to remove a great deal of federal support from high school vocational programs. Such a policy would signal a clear direction for federal policy, one acknowledging that the conditions leading to enactment of federal aid for vocational education in 1917 have changed, and that vocational education is now more appropriate and effective within postsecondary education.

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[109] It is worth noting that the AACJC proposal for the revision of the Perkins Act recommends that 40 percent of federal funds be allocated to "degree credit technical education programs," where a degree-credit institution is one providing an associate degree. The intent is presumably to earmark federal funds for community colleges and postsecondary technical institutions. If the 40 percent floor is applied instead to postsecondary *students*, the current average allocation of federal funds to PSVE is not very different from this figure, according to NAVE results.

The last possibility is to eliminate federal support for postsecondary vocational education. One argument for abandoning PSVE is that the amounts of federal money are too small to have any effect on local policy, so that any funds are essentially unconstrained resources. Another argument is that secondary vocational education is more in need of reform and redirection than is PSVE, and therefore federal policy should concentrate on resurrecting secondary vocational education. However, eliminating federal funding for PSVE would give up any possible federal role in improving postsecondary programs, and — at a time when there is general agreement about the need for a well-trained labor force — the symbolic rejection of postsecondary vocational programs seems inappropriate.

V. CONCLUSIONS: THE SHAPE OF FEDERAL POLICY

So far we have presented a large number of options for federal financing of postsecondary vocational education, but without mentioning any criteria by which this plenitude could be judged. With enough money, the federal government could fund all of them, and no doubt PSVE would be much the better for it. But the problem facing the Congress will be to establish limited priorities with limited funds available for PSVE, and therefore some way to rank alternatives, or judge which might be the most fruitful, is necessary.

One way to do this is to pose several different visions of how federal policy operates. The, depending on the vision one adopts, certain options are more or less attractive, and others become pointless. In areas like education, where the federal government provides funds to individuals and local institutions to purchase goods and services, we can distinguish at least three such visions, or models of how the federal government operates:

1. The *laissez faire* approach: In many programs the federal government provides funds without substantial restrictions on how they are to be spent. To be sure, there may be restrictions on who — which individuals or which institutions — are to receive funds, and broad restrictions may apply, but these programs generally assume that recipients can spend funds wisely in their own interests, and in simultaneously in the national interest. This approach probably works best when money is the only barrier to some particular goal. Examples include general revenue sharing programs, black grants — which are minimally restricted — and student aid, which operate much like a voucher; other examples include various tax funding mechanisms. This approach is politically the most popular, because recipients always want the greatest freedom with their federal funds.

2. The approach of specifying inputs and methods: In other federal programs, the recipients are assumed not to be able to spend funds in ways consistent with national purposes, and so these programs start the endless process of specifying how funds shall be spent. The Perkins Act tends to conform to this vision, with its detailed set-asides and specification of which activities are eligible and which ineligible. The underlying assumption is that without such constraints programs would revert to old bad habits — for example, spending very little on special needs groups and doing nothing in the way of program improvement. The constraints which are imposed on local recipients can be more or less precisely tailored to specific federal goals, so that this approach is appropriate when the federal government feels that its policy interests are different from the interests of recipients. The great drawback of this approach, of course, is that the process of specifying how programs should operate is an endless and complicated one, almost surely doomed by the desires of recipients to spend funds differently; this vision leads to criticism of federal programs for trying to run everything from Washington, and to battles over compliance. In the end this approach may not work very well, because of the difficulty of specifying precisely how money is to be spent. The Perkins Act is one example, since despite its many limitations it largely operates like a block grant with paperwork requirements.[110]

As long as Congress sticks to this vision, then any revisions of the Perkins Act involve efforts to improve the model — trying to tighten the constraints on federal funding so that they cannot be circumvented, or trying to concentrate federal resources on particular problems so that a federal program looks less like unrestricted funding. Many of the options presented above have precisely this character, but they cannot seem especially novel because they consist largely of following a familiar pattern — of being more specific about federal goals and more precise about the ways federal funds can achieve those goals.

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[110] For a detailed argument for this proposition, see Stephen Barro, *Resource Allocation and Targeting Under the Perkins Act.*

3. The outcome-oriented approach: A very different approach would be for the federal government to specify desirable outcomes, and then to leave recipients free to determine how best to achieve these goals. In contrast to the previous approach, this model need not specify inputs or methods of operating programs; a great advantage of performance-based approaches is that by specifying outcomes, federal policy could get away from the preoccupation with detailing how funds should be spent. The JTPA program is the best example of this: local programs must meet performance standards, but how they do so is up to them. The result is a great variety in local programs, which may then be difficult to understand as a coherent system; but it is also a system which is much more performance-oriented than any other existing public program.[111]

The real advantage of an outcome-oriented approach is that it can drive many other worthwhile efforts. For example, the approach of specifying inputs and methods can require programs to establish planning procedures, advisory councils, student assessment, student follow-up, program review, and the other apparatus of program improvement, but it cannot guarantee that these devices are either implemented wholeheartedly or that their results are used to improve programs. If instead it were possible to make PSVE more performance-oriented, than planning, assessment, and follow-up might take place, but because programs discover that such procedures are important to increasing performance. Then separate requirements to institute these procedures become unnecessary, and even irrelevant because some programs may find they can increase performance better in other ways.

Many of the options presented above would be unnecessary if PSVE were more performance-oriented. Therefore a very different vision of how PSVE policy could be devised would be to adopt policies that would move PSVE in the direction of being more performance-oriented. While it may be premature to shift all of vocational education policy toward a performance-oriented model, there are some steps proposed above which could begin to do so, including demonstration projects related to improving completion, experiments with performance-based funding, and small performance incentive grants. Even with small amounts of federal spending, such efforts could begin to shift the culture of PSVE, and other forms of program improvement — those which ought to be funded with state and local revenues, including "routine" improvements — would follow.

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[111] There are, however, other problems with the way JTPA operates. Creaming is the one problem related to performance standards, and many observers feel that there is widespread manipulation of the figures used in performance standards. The experience with JTPA could therefore help in framing better approaches to performance-oriented federal policies.